Gleanings in Bee Culture

December, 1958 Vol 86, No. 12

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XUM

Monthly HONEY Report

WALTER BARTH
Field Editor
San Antonio, Texas

SINCE THE U. S. Department of Agriculture released the latest honey production figures we can see how it compares with your own production. This year's honey crop is now estimated by the Crop Reporting Board at 252,134,000 pounds, up four per cent from the 1957 crop. Production per colony of bees this year averaged 46.7 pounds compared with 44.8 in 1957 and the 1952-56 average of 43.5 pounds.

Comments on the national price picture indicate the strong necessity for compulsory grading of honey. While the average national retail honey price for five pound jars of honey is $1.43, there are reports of the same quantity of honey selling for less than $1.25. In these instances the honey was of a poor quality. Compulsory grading is second only to advertising and sales promotion in developing a sound and growing honey market.

Here are the latest national retail honey price averages based on reports from Gleanings reporters throughout the country.

Retail Honey Prices

Container	Price
½ lb.	22¢
1 lb.	37¢
2 lb.	69-72¢
5 lb.	$1.43
12 oz. plastic dispensor	39¢

Four pound pails of honey are appearing on the market and they are selling for as low as 98¢. Yet, alongside the bucket here in San Antonio are 8 ounce jars of orange honey selling for 29¢. Specialties still pay off.

On the bulk honey market things have picked up slightly. Dealers have been slow to buy for many are heavily stocked and others saw no need to buy with plenty of honey in producers' hands. Western reports indicate prices of 10 to 13 cents for extra light amber and prices in the mid-west range between 11 and 12½ cents. Some dark honeys can't even get support prices. Extracting is over in all parts of the country, and as usual the flow has been good in some areas and poor in others.

Beeswax

Demand for beeswax is also light with western prices quoted at 43¢ in cash and 45¢ in trade. Elsewhere beeswax prices have settled at 45¢ in cash and 47¢ in trade. The market remains steady and strong.

Those beekeepers engaged in Royal Jelly production are dormant now in anticipation of a market revival. The market is getting stronger but whether the old prices will be realized again is unlikely. The damage resulting from numerous prominent magazine articles has reduced consumer interest. Personally I am extremely sorry, for Royal Jelly appears to have considerable merit, and but for the mishandling and misbranding on the part of a few, the industry is denied a new prosperity. The bad publicity has also scared off legitimate scientists seeking the truth. However, we are told work is now under way at one of the country's large medical centers to determine the possible value of Royal Jelly for human use.

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Agronomist George McBee climbs on top of the truck cab to show that claims of 10 to 12-foot growth are justified. County Agent James Selman of Willacy County holds the stalk.

Israel Clover Takes A Bow

There's a new clover moving northward from the Lower Rio Grande Valley of Texas which should add another valuable crop to benefit beekeepers. It's Israel clover.

A. B. KENNERLY, College Station, Texas

"SOME OF the Israel clover will produce as high as 26 tons an acre this year—maybe 30," says George McBee, agronomist for the Texas Agricultural Extension Service in the Lower Valley. McBee has been watching the clover for a couple of years in nursery plots, then actively encouraged plantings the past season.

While beekeepers are more interested in numbers of blooms than total forage yields, the latter will have considerable influence on the acceptance of the crop by farmers and its widespread use. Beekeepers will be interested if it is widely accepted.

The crop holds another distinct advantage to the beekeeper, but first, let's

B & Z Library

A few colonies of bees have been placed near Israel clover growing in the background. It's a sweet clover that produces an unusually heavy tonnage of forage and should prove popular with farmers. It's 60 days later than Hubam clover.

look at the crop from the general farmers' point of view. The crop is just what they've been looking for. It was about 15 years ago that Dr. R. C. Potts, an authority on forage crops at Texas A&M College, told me his idea of the best way farmers could get humus into the soil at the lowest cost.

"Don't plant legumes," he advised. "Plant big tonnage crops like sorghums that will produce 20 to 30 tons of green matter, plow it under and add cheap nitrogen fertilizers. You get your soil built up in a hurry that way."

Some authorities in other states going along with this idea have predicted that legumes would be out of the picture in another ten years. Their low yields compared with sorghums and other non-legume forages have placed them at a disadvantage.

Yet farmers have been reluctant to leave the legumes. They produce some nitrogen in the soil which the sorghums do not. But mainly, they send their roots burrowing deep into the ground leaving myriads of little canals through which water and air penetrate to the lower depths. Farmers have not overlooked this feature in legumes and they think it's a worthwhile asset.

That's why Israel clover looks so promising: They have a crop with all the advantages offered by its being a legume plus the advantage of heavy yields equal to that of most any sorghum crop. Individual stalks tower 10 to 12 feet above the ground, and under irrigation an average soil can support a heavy growth. Even in dryland, the crop is making an excellent showing and its drouth resistance seems to be satisfactory.

The crop is closely kin to Hubam clover which has gained wide acceptance among farmers for soil conservation and for grazing. According to agronomists, Israel clover crosses readily with Hubam.

Big advantage to the beekeeper of Israel is that it matures about 60 days later than Hubam. This means a sustained nectar flow in areas where beekeepers have access to both crops. Israel clover makes an excellent seed crop and no doubt bees will be used for pollination.

E. B. Ault, veteran beekeeper at Weslaco, moved 26 colonies into the Israel clover fields being grown for seed by Branham and Corbett at Raymondville. They had just been there a couple of days at the time of our visit, so he was not able to pass judgment on the honey flow. The clover was in full bloom the last of June, Hubam having passed its maturity long since.

Few plantings were made in the Lower Valley the past season, the largest being 75 acres.

Fall plantings will withstand the winter as far north as central Texas. Spring plantings, however, will make a good crop anywhere that other sweet clovers will grow. Fall plantings, on the other hand, make heavier yields.

Extension agronomist Ted Trew points out that the high protein content of 15.82 per cent makes it unnecessary to add nitrogen to the crop when it's plowed under as a soil builder. That should swing the choice of a soil building crop in its favor with most farmers. The crop looks like it has good possibilities for farmers—and beekeepers, too.

"DOGGONE IT"

H. H. ROOT
Medina, Ohio

IT WAS a mid-summer beekeepers' meeting well north in the state of Michigan. Instead of the oppressive heat in Ohio, the air was delightfully cool. The meeting was held in a grove adjoining a large bee yard from which came the most beautiful music in all the world—the humming of millions of bees bringing in honey. Fleecy, pure white clouds floated lazily across a sky of the deepest blue, possible only in the absence of all dust.

When I rose to speak, I carried my bag with me and set it in the grass behind the speaker's table. It was a recent gift and very new and shiny.

To tell a joke or even a bit of news intended to be funny, is highly embarrassing if nobody laughs; it is still more embarrassing to start with no intention of being funny and have people laugh. I was attempting to give a short review of the latest weather reports but there was a paroxysm of laughter. I made another start and this time, even David Running laughed; so did Russell Kelty, —and some other impolite beekeepers. After a third attempt I decided they were playing some kind of joke. I looked down at my necktie to make sure there was no unusual amount of gravy on it, and prepared to start for the fourth time but I was interrupted. The Secretary mercifully and privately explained that a big dog had mistaken my shiny bag for a telephone pole or tree, —not once, but several times. The dog finally driven away, my bag carried out of sight, I was left to make my report of the weather and deliver the worst speech of my career.

After the program Floyd Markham came up and began to laugh again. I felt like saying to him, as did Caesar to Brutus of old, "Et tu Brute".

"Thanks for the smoker Santa but the wife's gonna be sore about all the snow you tracked in."

HONEY TRUE MIRACLE FOOD

ROBERT J. WYNDHAM
Upland, California

"My son, eat thou honey, for it is good."
Solomon in Proverbs (24:13)

THE SPREAD between the wholesale and retail prices of honey is considerable. So the beekeeper has a great interest in selling as much as possible of his crop at retail prices. In fact the financial success of beekeeping is strongly influenced by what part of the crop is sold directly to the consumer.

It is a fact that the average housekeeper is poorly informed about the very unusual food value of honey and its great importance as a health-giving food. How else could we explain that the honey consumption per capita **per year** is only about one pound and a half? Compare this with a sugar consumption of about one hundred pounds per capita per year!

It could well be that we beekeepers now and then overlook some of the most effective sales points of our sweet product. For instance, do you realize that few prospective buyers know that honey is the only food that is practically pre-digested? Some doctors prescribe it for that reason for patients suffering from heart conditions, pneumonia and typhoid fever. Honey is certainly a boon for people whose digestive system is easily upset. How many housekeepers know that honey is a mild natural laxative?

Honey—though slightly acid—acts in the stomach as a natural alkalizer. In fact the darker honeys top the list of alkalizing foods, sharing the honor with orange juice.

Honey Induces Sleep

Our nation swallows sleeping pills by the ton, no doubt to the detriment of its health. But how many know that again honey in many cases comes to the rescue of the sleepless? Two tablespoonfuls of honey dissolved in hot lemonade should be taken the last moment before "hitting the hay". It relaxes the body and gives it a general feeling of well being, both inducive to wholesome natural sleep. Several of my friends and myself have tried this harmless home remedy repeatedly and with success.

Disease-causing bacteria cannot live in honey. This has been proven in laboratory experiments. Perhaps this is one of the reasons that whenever the human body has to perform at top efficiency, those "in the know" remember honey. This has been the case since the dawn of civilization. The ancient Greeks participating in the Olympic Games trained on honey. During the early stages of the Battle of Britain in World War II the pilots of the British Spitfires were desperately outnumbered by Hitler's dive bombers. The pilots had to fly ten and more missions a day at altitudes of up to 35,000 feet. The fate of their country depended upon their skill and endurance under grueling conditions. Liberal amounts of honey were included in their rations. Also, everytime they landed to refuel their planes, they were given honey in water.

Honey Produces Energy

Swiss alpine climbers preparing for hazardous expeditions, where maximum physical fitness spells the difference between life and death, train on honey. When Sir Edmund Hillary—a beekeeper himself—was the first to reach the top of Mt. Everest in the Himalayas,

he had trained on honey. For the same reasons a number of coaches in our country advise their athletes to keep honey in their lockers.

Who knows any other ready-to-eat food which does not spoil in its natural state and which can be kept indefinitely? In ancient Egyptian graves jars of honey have been found, still edible after 33 centuries!

The vitamin content of honey is small. But, whereas fresh vegetables and fruits lose a great deal of their vitamins on their way from grower to table, honey keeps all of its modest amount of vitamins well.

Honey is also a source of minerals, so important for good health. Again, the amounts it contains are small. But then our body needs only traces of them. Up to a dozen different minerals have been found in the chemical analysis of honey. Curiously enough the less popular dark honeys are far richer in mineral content.

There is general agreement as to the value of honey for those who are in a serious condition caused by exhaustion and for convalescents. This stands to reason: honey, being practically predigested, does not tax the digestive system.

Honey has been used in infant feeding. A Chicago children's hospital has been using honey for years in its formula and found it very satisfactory.

Since antiquity there has been a persistent belief that honey in the diet assures a long life. The Greek philosophers, who in 300 years of debating on street corners formulated every thought the human mind is capable of, ate quantities of honey. Pythagoras died at the age of 90, his disciple Appolonius lived to be 113. Anacreon credited his long life—he died at 115—to honey. Hippocrates—the father of medicine—was a honey enthusiast and recommended it for a long life. Democritus, who explained the principle of the atom 23 centuries ago, firmly believed in the health-giving qualities of honey. At 109, he felt he had lived long enough and brought on his death by fasting. Piast, the Beekeeper, became King of Poland in 824 A.D. and lived to be 120.

In recent years, after the discovery of the Dead Sea scrolls, the Essenes were much in the news. They were a Hebrew sect and beekeepers. They had a reputation for longevity: many of them reached the century mark.

In modern times there seems also to be a connection between a long life and beekeeping. Several famous beekeepers lived to a ripe old age, such as Francis Huber, Dzierzon, Langstroth, Dr. C. C. Miller, A. I. Root, Charles Dadant, and Thomas W. Cowan. A Dr. Lorand in two books, "Old Age Deferred" and "Life Shortening Habits and Rejuvenation", voiced his belief in honey for a long healthy life.

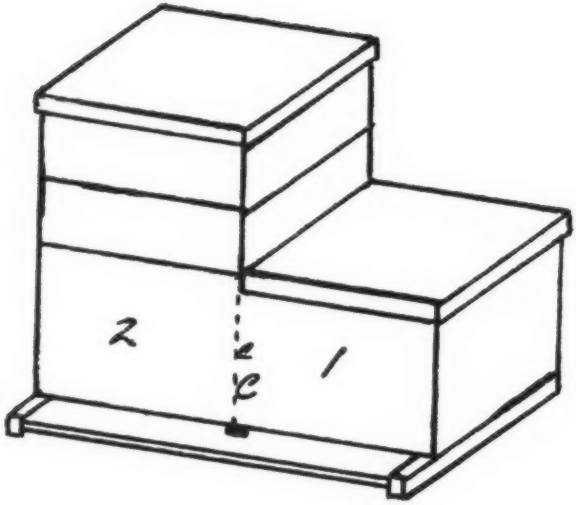
In the May 1957 issue of Gleanings, a beekeeper from Kashmir, India, states that many beekeepers in his country reach 100 years. This is all the more remarkable as the average life span in India is very much shorter than in the western world.

A Frenchman doing research in South Morocco in 1955 found that the members of a tribe near Adijir lived remarkably long. Among them centenarians are not exceptional at all, in spite of the fact that their living habits would seem highly unsanitary in western eyes. The researcher found that out of 130 (!) people of 100 years and over, 80 per cent were beekeepers, eating generous amounts of honey since early childhood.

Since the dawn of civilization, honey has had a great reputation as a medicine. It was an ingredient of almost all prescriptions of the ancient Egyptians. The Bible mentions honey as a medicine. Mohammed summed it up very neatly: "Honey is a remedy for all disease." The symbol of medical science also tells the story. Here we see a snake —symbol of Aesculapius, the God of Medicine—coiled around a staff, ready to feed from a cup of honey. St. Ambrose said, 16 centuries ago, honey "cures their wounds and convaies remedies to inward ulcers."

Today we live in an age of chemical medicine and honey is largely forgotten by modern medics. Still we are all familiar with reliable reports that honey has benefitted many people suffering from stomach trouble, arthritis, persistent coughs, etc. With some doctors in Central Europe, honey has regained its place in surgical dressings, on burns, etc. As a health food it is also gaining ground both here and in Europe.

Do you know of any other food which has so much to say for itself?



A

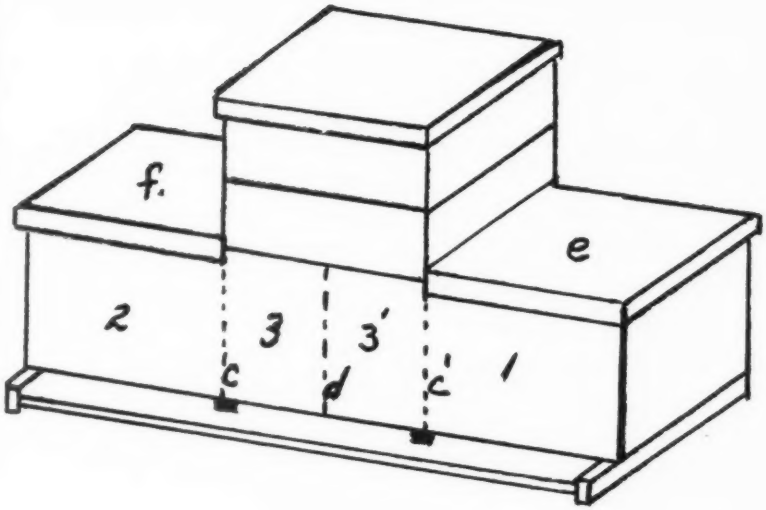
An Experimental Hive

The modern beehive was invented just over 100 years ago. That it was most remarkably suited to its purpose is attested by the fact that no radical changes have been made in it since that day. However, careful reading of beekeeping literature during the last few years reveals a rather widespread inclination to question the efficiency of the hive as we use it.

ANDREW A. BURKHARDT
Monsey, N. Y.

NEITHER LANGSTROTH, nor his contemporaries, could have had any inkling of the tremendous strides which the science and practice of apiculture would make in that century. Whether it is a single apiary of a few hives, or a chain containing many thousands, the basic unit is still the same,—the brood chamber beneath and the honey supers tiered over it.

However, a careful reading of beekeeping literature during the last few years reveals a rather widespread inclination to question the efficiency of the hive as we use it. There would seem to be a real reason for such question, for,



B

if our bee breeding has meant anything in the last generation or more, surely there should be an accompanying increase in efficiency to take advantage of such results. Labor costs, also, make it rather imperative that we find some way to be free of the extra expense of handling so small a unit.

All serious experimenters seem loath to make any direct break with equipment presently used in apiculture. This is an economic necessity if a "new" idea is to become practicable, for no one could well afford to discard present equipment for the sake of any reasonably possible increase in efficiency.

Such considerations have led most experimenters to rely simply upon a reshuffling of the hive parts;—i.e. upper entrances etc. Others have turned to the idea of multiple queen hives with the hope of increasing the crop through the combined efforts of two or more swarms in one set of supers. But, here again, they have relied upon new methods of "stacking" the present hive parts, rather than upon any radical departures from such equipment. Some of these methods produce a rather top-heavy conglomeration that one would hesitate to leave exposed to any wind. Other methods appear to be most prodigal of bee life. When one thinks of the manner in which bees' tempers are roused by crushing their fellows, or even the loss of effective honey gathering numbers, one hesitates to follow such procedure.

A new hive must fit certain specifications. It must:

1. Use present equipment of whatever type the apiarist desires.
2. Provide for a food chamber.
3. Provide adequate laying area for a **good** queen.
4. Prove more efficient and economical than the present hive.
5. Be at least as portable as the modern food chamber, (or two brood chamber) hive.
6. Reduce the human labor element.
7. Prove adaptable to general beekeeping practice.

While this is a most difficult set of specifications to meet, the accompanying drawings are submitted as lending a clue to the solution of the problem.

Explanation:

Drawing A represents a one queen hive. It is built to be twice the outside width of the present hive. 1. indicates the brood chamber. 2. indicates the food chamber. In use the queen is al-

lowed the run of the entire hive during the build-up period. With the approach of the honey flow, she is confined to the brood chamber proper by use of a vertically inserted queen excluder (c). Examination of the hive, thereafter involves only the removal of the cover over the brood chamber, the super tier remaining undisturbed.

The drawing indicates a block of wood inserted in the entrance just below the queen excluder. The purpose of this is to provide a solid footing for that side of the supers, as well as to prevent any other explorative queen from finding her way around the front of the excluder to the supers. In practice, the size of the entrance to the super stack, (if any), would be a matter of personal choice.

The only parts of the equipment changed to make this hive are: one outer cover, from which one side has been removed and the metal turned upward to extend under a cleat nailed along the super side with the idea of preventing rain from seeping through; the bottom board which is twice the width of the usual bottom board, (this may be accomplished for experimental purposes by nailing two bottom boards together). Some support should be given the hive at the center of the bottom because of the weight of supers. The outer covers can be made to fit snugly for wintering by placing a narrow frame under the super cover to raise it slightly above the other so the upturned side may fit under the edge.

Drawing B shows the same arrangement, but for two colony use. It is constructed to be just three times the width of the hive now in use, (outside width).

1 and 2 are brood chambers. 3 and 3′ are food chambers. **c** and **c′ are** queen excluders. **d** is a division board. This board may be of double screen, or solid. The writer has used the solid board because he felt it had certain advantages. If the solid board is used, the bees are united by the newspaper method when the supers are placed over the hive. With the screen, this would not seem necessary.

In use the queens are allowed the full run of their half of the hive. On the approach of the honey flow, they are confined to brood chambers 1 and 2 respectively, by the use of the queen excluders. Supers are placed above the food chamber as per illustration. Examination, in this hive also, involves only the removal of the cover over the brood chambers.

Wooden blocks have been placed under the front as shown for support which would seem necessary with so long a hive front, and the additional weight of the supers. Direct access to the honey storage portion of the hive, is again a matter of personal choice and conditions.

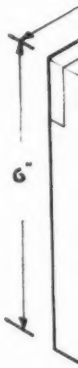
Here again, the only change in equipment is in the removal of one side of the outer covers, **e** and **f**, and turning the metal upward to project under a strip nailed along the side of the super, to shed rain. It will be necessary to support the bottom board under the tier of supers. (Incidentally, one reason for using the wooden division board was that, being nailed to the front and rear of the hive, it might tend to prevent warping under the weight.)

In order to experiment with either of these hives, it is only necessary to fasten together the appropriate number of bottom boards, make a hive front and back of proper length, and use the sides of one of the old hives that you will always find about an apiary. If the experiment proves worthwhile, it can very easily be made a permanent thing by the construction of the necessary bottom board.

The easiest excluder to cut down for this use is the perforated zinc type. The division board may be as thick as a frame, or of whatever thickness the individual beekeeper finds best for the number of frames he wishes to crowd into the available space. This will, of course, be limited by necessary bee space considerations.

Either hive will reduce to nothing the need of lifting supers during routine examinations, thereby allowing one person to take care of several times as many hives in one day. These hives will be even more easily portable than the present two story hive because of the lower center of gravity and the clearer vision allowed in carrying. They will transport more safely because of the lesser danger of parts coming separated by jolting. They will immeasurably reduce the work of government inspectors because of the elimination of the back-breaking part of their work.

(Continued on page 721)



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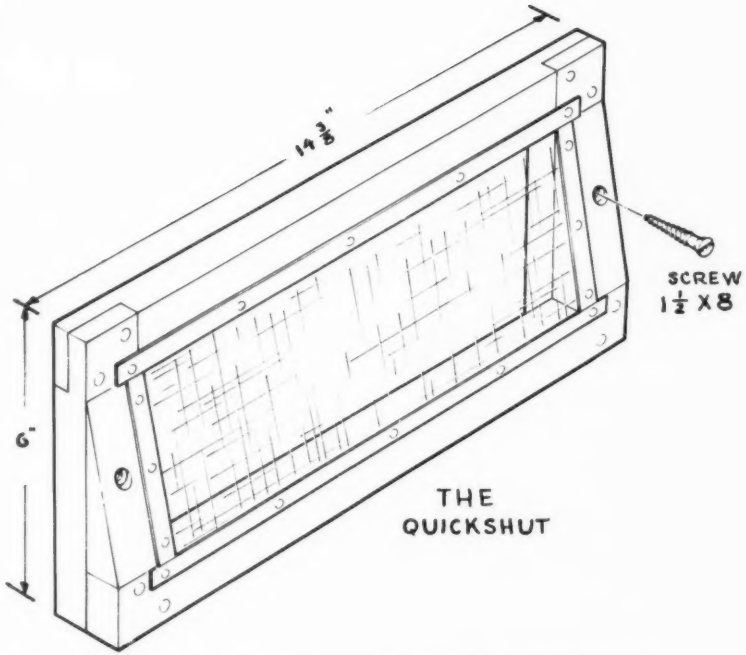


THE QUICKSHUT For Closing Entrance

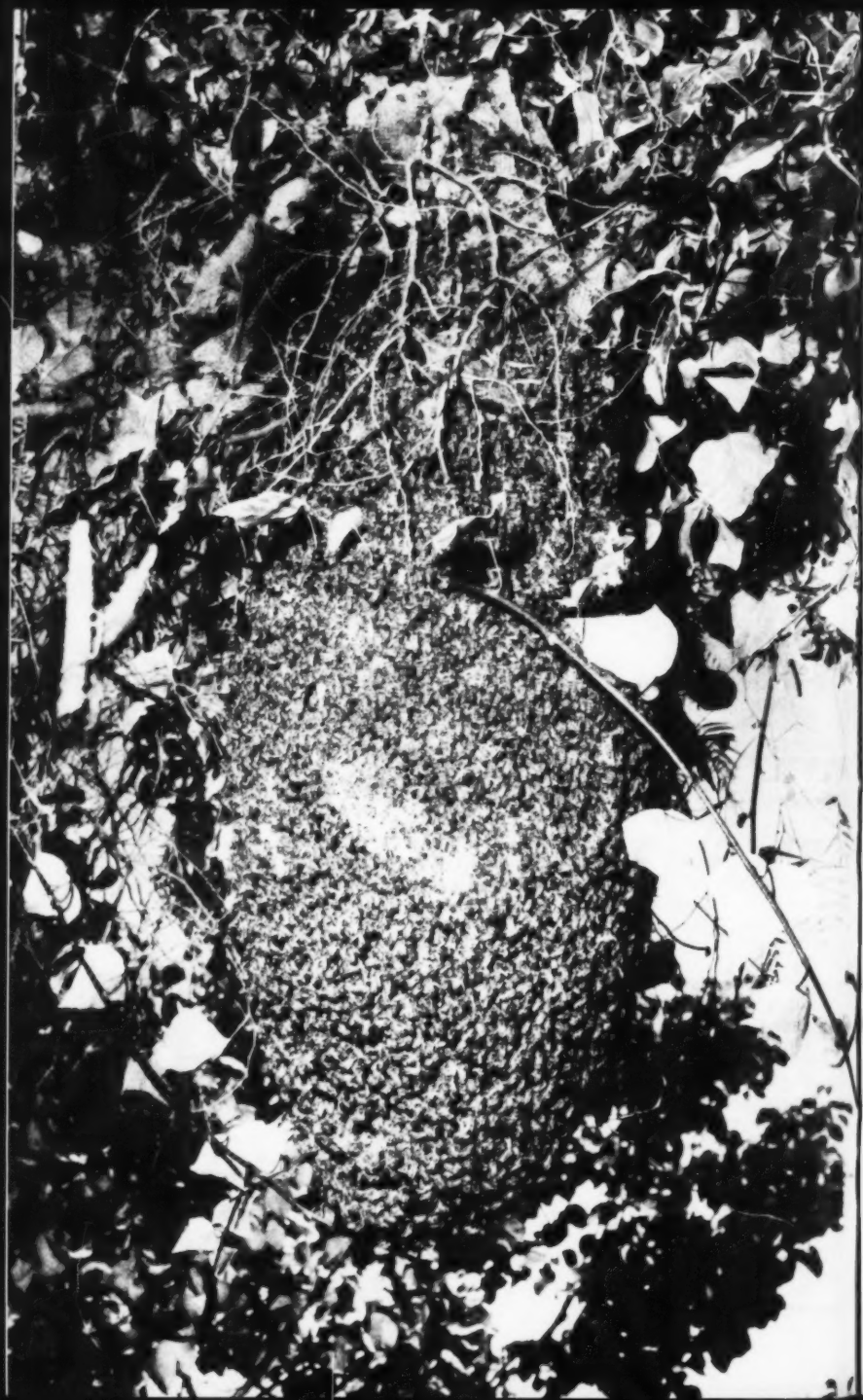
LEW W. WHITE
Shawnee, Okla.

THIS SCRIBE went with a friend to help move several colonies early one bright morning in mid-June. They were to be moved about 12 miles. Guard bees were crawling briskly about the hive entrances. My friend took a quick look, and exclaimed: "Just look at them critters, they smell trouble; if we don't hurry and get them QUICKSHUT gadgets of yours fastened over the entrances we sure won't move any bees now".

We did move the bees, easily and without incident. My friend had already fastened his hives to the bottom boards with short metal strips cut from binders off bundles of corrugated roofing, so that all we had to do was close the entrances and get going.

I have used this little device a long time. It is safe and simple and easy to use, and, the use of it does not seem to excite the bees. I had explained how it worked before going with my friend

(Continued on page 721)



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XUM

A Fresh Air Colony

C. A. PARKER
Los Angeles, Calif.

IT IS ON the property of A. Van Dedrick, 3454 Motor Ave., Culver City, California. Over two years ago, a swarm tried to settle under the eaves of the house. Mrs. Dedrick used the garden hose to discourage this, thereby drowning many. Finally, a small handful settled on a branch of a Pepper tree. At the present time the comb extends about five feet from the limb, is approximately 14 inches thick and 18 inches wide. Estimated weight is 150 pounds.

During the past two months, the comb has been extended about four inches on the bottom.

Walt Disney has requested that his photographers be present when a platform is built under the colony and the bees brushed into a hive. They are a curiosity out here and have been photographed many times.

AN EXPERIMENTAL HIVE

(Continued from page 718)

They will tend to reduce robbing because of lesser exposure of honey. They will increase the efficiency of the hive because of the lesser need of bee labor in resealing hive parts after examination. One of the great arguments in favor of the old Long Idea Hive was the fact that the queen will travel sidewise more readily than vertically. This hive meets that advantage.

The dual hive B at first gives the appearance of being cumbersome. It will, however, be seen that two colonies are actually being hived in only 50 per cent more room than is usually provided for one. The saving in weight during moving will be apparent. Also, the lower center of gravity, the ease of stacking in the truck, along with the comparative ease of hand carrying, make this nearly ideal for two queen use. Some care will be needed to keep both colonies at ideal strength, but the increased storage efficiency of two swarms working in one super will adequately repay such care. For wintering, three inner covers will fit without any changes being made in them. Close the escape hole in the center one.

The writer's own experience with these hives has been somewhat limited because of a late start last spring and a poor crop due to drought. But, in comparison with other hives in the apiary, especially in the amount of work involved, they seem worthy of far wider experimental use under varied conditions. The rabid multi-queen experimenter will find room in these hives for his hobby, especially in hive B.

THE QUICKSHUT

(Continued from page 719)

to help move his bees; so, when we got ready to attach them to his hives he called them QUICKSHUT gadgets, thus he gave me a name.

It was about 10:00 a.m. when we got the bees to the new location and all placed on the hive stands. My friend left the QUICKSHUTS on his hives and applied thick sugar syrup several times during the afternoon. He removed the QUICKSHUTS early the next day while the bees were quiet in the hives. He said it was simply wonderful that bees could be moved so easily on a bright day while they are eager to work.

The QUICKSHUT is 14⅜ x 6 inches, over all, and covered with window screen wire cloth. It is attached to the hive, over the entrance, with two 1½ x 8 wood screws. With it applied, the bees can move about and get air freely but cannot get out of the hive. I usually fill the small cavities that the screws leave in the hive with calking compound immediately.

Top and bottom bars are 14⅜ x 1¼ inches. End pieces are 6 x 1¼ inches. Top bars and end pieces are notched so that they can be nailed together flush. Bottom bars are on front of end pieces. A tapered block is used to level out the front surface so that the screen cloth will go on smoothly. Edges of screen are covered with narrow molding. Clear box board ¾ inch thick is good material with which to make the QUICKSHUT. When painted with aluminum paint they look real neat on the hives.

XUM

Dr. J. E. Eckert at the experimental apiary at Waite Agricultural Research Institute, Adelaide, S.A., handling Ligurian Italians.

The Kangaroo Island Ligurian Bees

(Continued from Nov.) Part II

In general, the bees compared favorably with a good grade of our darker Italians, only they were more gentle.

J. E. ECKERT
University of California
Davis, California

The **K. I. Ligurian drones** are quite variable in color, with a majority being black with the first one or two segments of the abdomen a yellowish-brown. There are three narrow bronze borders on the posterior third, fourth, and fifth abdominal segments. These bronze bands are transparent portions of the segments. Ventrally, the abdomen is lighter in color, frequently a yellowish-brown. The hairy covering is buff, being lighter and longer ventrally and laterally. Even the black appearing drones have a light yellow transparent line at the union of the second and third abdominal segments. Some drones have a number of yellowish spots along the sides of the abdomen. The posterior dorsal abdominal segment is black while the ventral anal segment is always a light yellow.

The **K. I. queens** vary in color from yellowish-brown to a rich reddish-brown with the 1½ to 4½ terminal

abdominal segments black. The dorsal abdominal segments have black borders, the black rings varying in width, generally wider near the black terminal segments. The queens are generally lighter and more evenly colored ventrally than dorsally. (Masterman reported that an occasional black queen was produced while he reared queens on the island.)

A second distinguishing feature of many of the queens is the presence of one to three black spots on the median dorsal line of the abdomen, on segments 4, 5 and 6. Some queens produce a larger number of offspring with these spots than do other queens. Fifty-two per cent of the queens reared at Waite Institute from K. I. queens had such spots.

A third character that occurred on 99 per cent of between 275 and 300 queens examined was a triangular figure outlined in black on the abdominal segment aljacent to the thorax.

A fourth set of characters on the K. I. queens consisted of two or three small dark spots on the lateral portions of segments 3, 4, 5 and 6 of the abdomen. These spots were generally above the position of the spiracles.

The scutellum of most K. I. queens is the same color as the rest of the thorax or at most a dark brown.

The mandibles, labium, genae and clypeus of queens reared at Waite Institute from K. I. queens were dark brown to black, and none were bright yellow as in American-Italian queens.

It was found that the bees on K.I. varied in size as did bees in colonies produced on the mainland from K. I. stock, but there was a greater number of smaller bees on K. I. than in the mainland colonies, with the exception of two colonies that we tested. An attempt to determine if the variation in size is a genetic factor gave inconclusive resullts.

The bees on K. I. generally were somewhat nervous on the combs, only an occasional colony being quiet. However, they did not run and drop off the combs.

There was no striking uniformity in the placement of the brood. In fact, the brood appeared to be more scattered than is generally desired but there were some very good brood patterns. Very little sacbrood was observed and

Ligurian Drone

there was no marked evidence of Nosema, although some bees examined microscopically were infected with Nosema. A few colonies showed some evidence of paralysis but no more so than in the average apiary.

In general, the bees compared favorably with a good grade of our darker Italians, only they were more gentle.

A second visit to K. I. was made in April with Mr. Shaw, Mr. Doull, and Dr. Callaghan (The Director of Agriculture of S. A.) for the purpose of evaluating the possibility of moving the state apiaries and queen breeding project from Flinders Chase to the research center at Parndarna, near the center of the island, as well as to note the destructiveness of the February fire.

A third survey of the remaining colonies on the island was made later by Mr. Doull and Mr. Mitchell and the results checked favorably with the other surveys. The conclusion has been drawn that the present colonies on the island are not divided into blacks and yellows but are remarkably uniform in color and in temper.

There are some rumors that other races of bees, including blacks, may have been imported on the island be-

Ligurian queens with abdomens bent to show the characteristic triangle on first abdominal segment. The scutellum is the same color as the thorax.

Virgin queens of the Kangaroo Island Ligurian strain to show the variations and characteristics.

fore 1939 regardless of the Ligurian Bee Sanctuary Law. There is also a statement that a swarm of bees may have negotiated the eight miles or more of water from the mainland. (In fact, one beekeeper is reported as having seen such a swarm.) After looking across the waters and sandy wastes on both shores at the nearest points and knowing something of the manner in which bees scout out their new homes, it seems highly improbable to me that swarms of bees would make the attempt or survive if "blown off their course while swarming". If other varieties of bees were introduced in the early years of the sanctuary, or even before the sanctuary was declared, they certainly have been absorbed in the general pattern now present on the island. There is no description of what the original Ligurians looked like, and so it is difficult to make a comparison. The present K. I. bees have many desirable traits, and the island is a stragetic site to improve the strain. Artificial insemination of stock at Waite Institute of Agricultural Research would hasten the program of selection and natural mating on the island.

A standard of excellence for color and behavior of the bees has been made. Plans are being formulated for a definite queen breeding program with the aim of producing greater uniformity in color of queens and bees and improvements in other desirable characteristics such as industry, brood pattern and vitality.

There has been some criticism of the lack of uniformity in the color of the queens and in the vitality of the bees and queens after the first year on the mainland. At the same time, there are many who have found the K. I. Ligurians and their first cross to be as good or better on the mainland than other varieties of Italians they have tried. Brother Adam of Devon, England, advised by letter that the Ligurian Italians are variable in color and in size in their native land and that the queens and drones are more variable than the workers. I examined some colonies of Ligustica bees outside of Rome on my way home but they were not like the Ligurians, and were cross.

I have hopes that some of the K. I. Ligurian queens can be returned to the University of California for further study into (1) their genetic composition, (2) longevity, (3) variation in size of the workers, and (4) to see if the great docility of the bees could be transferred to our own strains of Italians. Unfortunately, requests for permits to import the queens have been denied by the U.S.D.A. Quarantine Service, on advice of the Federal Bee Culture Laboratory, even though there is no danger of introducing any bee disease. It is my opinion as well as that of others that the Federal Bee Law is good but should be used for what it was intended to do—to keep out any bee disease we do not now have (and particularly Acarine disease)—and not to prevent bee research by state research agencies in other varieties or races of bees from countries that are free from acarine disease. We found no acarine disease on K. I. or on the mainland of Australia and none has ever been reported from that part of the world. They have no disease that is not present in this country and we ship queens to Australia. We are now attempting to secure queens of the K. I. Ligurian variety through the far more expensive and laborious method of introducing eggs, as well as drone and queen pupae, with the cooperation of Mr. Alan Clem-

son, of Sydney. One shipment of eggs was forwarded from Adelaide to Dr. Laidlaw, of California, before I left Australia and while the shipment arrived in good condition, the bees did not accept the eggs. A second shipment of eggs also was unsuccessful. A. I. Root, and others, reported the successful shipment of bee eggs through the mails, but they did not have to contend with ground and air travel conditions over a period of approximately three days, and a distance of half-way around the world. The shipment of live queens is the only logical method.

Queens can be shipped into Australia only by permit and then only through the Department of Agriculture of each state. When received, the attendant bees are killed and examined and, if free of disease, each queen is provided with new escorts and forwarded to the importer. The beekeeping industry is safeguarded and the queen breeders and research agencies can secure other varieties or strains of bees from acarine-free countries.

I believe that the present variety of honeybee on Kangaroo Island has sufficient value to be maintained and improved without the introduction of other varieties. It would be of scientific importance to us to secure some of the queens for further research along the lines mentioned. We also should be able to acquire other races of bees from other Acarapis-free countries in a search for better stock, because safeguards can be taken against the introduction of acarine disease. The introduction of visible markers on research stock would add materially to genetic studies.

Bees Solve Many Problems

JULIETTE FRAZIER
Sherwood, Oregon

TAKING CARE of a few hives of bees requires very little work and time, yet might result in the extra money needed to solve the problem faced by many elderly couples, as it did for Mr. and Mrs. J. G. Tiltmann of Yamhill County, Oregon.

The Tiltmanns found it very difficult to try "to make both ends meet" with only the meager income from a small pension, but since Mr. Tiltmann was no longer able to do any kind of work, they had resigned themselves to their circumstances.

About three years ago, a neighbor gave Mr. Tiltmann a swarm of bees. The neighbor thought the bees would provide a sort of pastime for the old man, who since he was partially paralyzed, could not even work much in his garden anymore.

Mr. Tiltmann and his wife who was also handicapped, suffering crippling arthritis, spent many hours watching the bees busily buzzing about the flowers near the house, but never dreaming what a blessing those bees would become.

There was a big smile on Mr. Tiltmann's face last spring when he had four colonies of bees taken out of the cellar in modern hives. He told a neighbor that one new swarm which was hived last June stored and completely filled up three surplus boxes of honey of 30 pounds each, or 90 pounds of honey in pound sections, beside filling their hive, and he was obliged to put on a fourth surplus box, for the fall flow of goldenrod honey.

At the time of this writing, June 21, four colonies, spring count, have produced 418 pounds of honey in pound sections.

Mr. Tiltmann says that he thinks most any handicapped person who is able to get about, who desires extra money could make a neat little sum in a season from 10 to 12 colonies of bees. The cost of getting started is very little and it comes so gradually that one does not feel it, and if the fixtures are kept under cover they will last a long time.

Many people are afraid of bees, but fear is useless in all cases; the first thing is to get rid of it by using a bee-veil, gloves, and the pants inside the bootlegs. Handle the bees gently and always when they are busy at work, if possible. You will soon get used to them and they to you.

TWO PHENOMENAL EVENTS

This spring during the swarming season I noticed an unusually large swarm clustered about 20 feet up in a small oak tree. I estimated this swarm to weigh approximately 16 or 18 pounds.

PHILIP H. SLAUGHTER Charlotte, N. C.

THE SMALL LIMB on which they had clustered was cut and the cluster was shaken at the entrance of a two-story 10-frame hive with full sheets of foundation. Approximately half of the bees went inside readily, while the remainder clustered on the front of the hive, covering most of the area of the front, massed most densely at the front rim of the telescoping cover. This was about 10:30 a.m.

Late that afternoon it appeared that none of the bees which had clustered on the outside had moved inside, and only a few of that cluster seemed to take flight. By that time, however, those which had entered the hive originally had set to work diligently, and were

flying to and from the hive in a business-like manner, while most of them were at work drawing out the foundation.

The outside cluster remained outside all night, and about 10:00 a.m. the following day took flight, all bees from the outside cluster participating as if they had just swarmed from their original hive, and soon settled in another small oak tree about 30 feet from the one they had settled in the day before. These were then shaken at the entrance of another new hive, and entered it promptly, and set to work in earnest immediately.

Examination showed that both swarms were queenright, each having a very good queen. One colony was slightly lighter in color (worker bees) than the other, and while they seemed to have been thoroughly intermingled as an original swarm, after they divided (of their own accord) apparently each group of workers was faithful to its own original queen. It seems that their sense of smell was unusually keen at that time for them to make such a sharp separation. Also, it seemed that the queen which refused to go inside the first hive exhibited some intelligence in not entering and facing what would have been certain mortal combat with what would have been her rival,—or was it instinct?

Unintended Sting on Cheek

Today I walked into a bee yard among a group of many closely spaced hives. It was early afternoon, and a bright warm day, with a light honey flow from white dutch clover. There were millions of bees and not a single angry one. I had looked into several hives, and inspected frames, being careful not to disturb or press a single bee. On walking from the yard, I suddenly felt a non-angry bee strike my cheek under my right eye, which could be expected from a heavily nectar-laden bee, as I was right in its flight-way obstructing its normal return trip. The bee being laden and possibly tired could not maneuver to miss me, but as I had caught a glimpse of it before it lightly struck my cheek, it appeared to be trying to avoid the collision—putting on brakes, so to speak, but the inertia from its weight and speed was too great, thus the slight collision.

It had no high pitch to the sound of its wings, and therefore was not angry. Its abdomen being heavy, with its wings applying power as if to attempt to back away from me, its abdomen, or heavy end, struck me slightly. Also, and I attribute this to inertia, the point of its sting pierced the skin only slightly, with still no angry pitch to the buzz of its wings. The piercing of the skin was so slight I hardly felt it, but was probably deep enough for the first barb only to enter, and as the bee pulled away the sting remained.

I have had many such unintended collisions on my cheek, and never bothered to brush at the bees with my hands, as they usually bounce right off and continue to the hive, but this time I received a slight sting. The bee dropped to the ground, with still no angry buzz. Usually a bee which has just lost its sting follows up with frenzied mock-stinging, but not this worker.

About the time the bee struck the ground I immediately detected the unmistakable strong scent of the bee sting poison, and realized for the first time that the stinger was left in my cheek, so I scraped this off with a fingernail. Evidently the scent did not reach any guard bee, as not a single bee became angry in the happening, and as it only amused me, I did not become angry with the bee which had stung me so unintentionally, but only wished that it could have returned to the hive to make many more trips.

SOLUTION TO THE NOVEMBER CROSSWORD PUZZLE

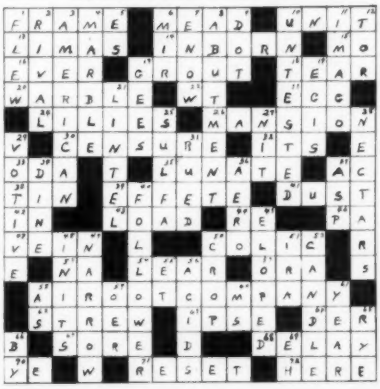

Photo by L. G. Lester

Wintering Problems of a Beginner

RAYMOND W. HERRICK, JR.
Baltic, Conn.

ONCE AGAIN we are faced with the problem of wintering our honeybees. A great many articles have been written on this subject. They have been from about every part of the United States and from other parts of the world. For a person just entering into beekeeping, this is a very confusing and frightening subject because of the conflicting ideas from these experienced beekeepers.

As a beginner, this subject has been of great interest and concern to me. As I have had bees for only two seasons, I cannot say what is the best or what is the least desirable method. I can only relate what experiences I have had and what I intend to do for the approaching winter season.

I started out with just one colony purchased from the South in April of 1957. The bees had filled two stories with honey and brood at the end of the season. That year I did not get a surplus of honey because conditions were very poor. Experienced beekeepers told me that I was lucky as I did not have to feed them during the fall season. The only thing that was done for wintering

them was to restrict the size of the front entrance. I must admit, however, that the hive was protected from both the north and east, as it is located behind an embankment.

When spring arrived and I was able to open the hive for investigation, I found a great many bees dead on the bottom board inside of the hive. I was greatly disturbed by the sight of so many dead bees, but upon closer examination of the hive, I happily noticed that there were still a very large number of live, active bees busily cleaning away the remains of their dead relatives, as well as excited activity throughout the combs. The queen had been quite active, eggs had been deposited, and brood was forming nicely. I now believe that the dead bees were the older worker bees that had made it back to the hive at the end of the season and had finally come to their end inside of the hive during the winter.

Upper Ventilation Essential

I am convinced that a ventilating hole in the upper story would have helped because the dead bees were very damp. Some of this, of course, was from their decaying bodies, but I believe some was from trapped moisture. I have since bored an opening in the upper story for this purpose. I did not let the colony swarm because I was afraid of weakening it too much.

I hived a good sized swarm on May 19, 1958 from another source and so I now have two very strong active colonies. My honey crop for 1958 has been very satisfactory.

My second hive was started on new brood foundation in the brood chamber, and when this was drawn out and eggs had been deposited and some honey was in, new foundation was installed in the second story, which incidentally, took only three weeks. New foundation was also added to the new surplus supers as needed, and I extracted nearly 100 pounds of honey. I believe this to be a very good yield from a hive in its very first season. Conditions, of course, have been very good.

This year I intend to wrap both hives with felt paper, but without any packing material.

From what I have read and from my first season, I am convinced that my bee yard is situated well enough so that as long as the moisture can escape, I need only to install the felt paper to complete my wintering chores.

Our Cover

THESE ARE the daughters of Mr. and Mrs. Evergard Flygare, Annandale, Minn. Their names are Meridith, on top; Owenyth, on left; Paula on right. All girls started life on a milk and honey formula and they have thrived on it.

Liquefying granulated honey appears to be a simple process of redissolving the crystalline sugar in the liquid honey, but it can be a source of much trouble. Use of improper time—temperature combinations (high temperatures or even exposure to moderate temperatures for excessive times) can seriously damage delicate honey flavors.

COARSE Granulation of Honey

JONATHAN W. WHITE, JR.
Eastern Regional Research Laboratory
Philadelphia 18, Pa.

ALL BEEKEEPERS are familiar with honey granulation and know how to cope with it. They have learned that because honey is a supersaturated solution, the excess sugar will crystallize in the ordinary course of events. Most know how to apply controlled heating to bring it back to the liquid state without flavor or color damage. This appears to be a simple process of redissolving the crystalline sugar in the liquid honey, but it can be a source of much trouble. Use of improper time—temperature combinations (high temperatures or even exposure to moderate temperatures for excessive times) can seriously damage delicate honey flavors. Difficulty can also arise if in the treatment of partly granulated honey the liquid part is removed before it can act as a solvent for the crystallized dextrose. Ordinarily this will not happen, since granulated honey is "melted" in the same container in which it had crystallized. Thus there is plenty of "solvent" in which to dissolve the sugar.

Larger Packer May Have Difficulty

The potential difficulty lies in the different ways used by small and larger packers to liquefy honey. The larger operator uses a hot room and inverts the cans of honey on racks so that as the honey liquefies it flows away and is led out of the room, thus avoiding excessive exposure to heat. In general this is an efficient and successful way to liquefy honey. However, if the liquid part drains away rapidly and leaves much solid in the can, the residue will not dissolve and remains in the solid state. Even though higher temperatures are used, it is practically impossible to liquefy this residue.

Partial Coarse Granulation a Cause

Several years ago a Texas packer had this happen with 40 cans of honey; there were from 10 to 30 pounds of residue in each can. He had noted that the honey had been only partly granulated with heavy, coarse crystals. The probable cause for his difficulty was the coarse-textured granulation, which being much more resistant to dissolving than smaller crystals, did not do so before the liquid part drained away. Such a situation could be expected to arise with previously heated honey, since it is well known that heated honey will re-granulate with large, coarse crystals unless seeded with fine-grained honey.

Can the Residue be Recovered?

Refilling such partly emptied cans with honey and reheating will not be very useful, since any honey added is almost saturated with dextrose at the higher temperature and cannot dissolve much more. The best material to add is the liquid that had drained away from the residue, since it is probably not saturated with dextrose. Often this cannot be done, since it has mixed with other honey. If water is added instead and the mixture is heated the residue will dissolve, but the resulting solution is of limited use such as for stock feed.

Not a Sign of Adulteration

We have known of three recent cases when the finding of crystalline residual material from honey melting has been regarded by a packer as a possible sign of honey adulteration by the producer. We have analyzed two such materials sent to us. One was in 1956 from Arkansas, and the other was sent from Minnesota in 1958. The results of our analyses are given in the table. We have also seen an analysis by a commercial firm on a similar residue in 1957 from a third state. This analysis was quite close to those given in the table, and they concluded that the sample was an adulterated honey.

Table 1

Composition of Granulated Residue from Honey

	Minnesota	Arkansas	Average Honey *
	%	%	%
Moisture	12.5	12.6	16.7
Glucose	64.39	66.01	32.2
Fructose	14.56	18.13	38.8

* See reference 1.

The values in the table fall quite outside the usual composition and approximate that of a crude dextrose hydrate, which of course it is. The analysis reflects the composition of the material analyzed, and certainly not that of the honey from which it is derived. No information on the original honey can be obtained from the analysis of such residues. This is because the composition of the liquid part of the honey is changed by granulation. Therefore, if some or all of the liquid part is removed from partially granulated honey, neither fraction alone will represent the original honey. This point is emphasized because the finding of a high-dextrose residue in these circumstances has led individuals to feel that the original honey had been adulterated with dextrose (corn sugar). In the instance where the commercial laboratory did the analysis, they presumably believed that the sample was honey when it actually was a granulation residue of the type described above. The sender did not seem to realize that its composition would differ from that of the entire lot. With its actual origin unknown to them, they labeled it "adulterated with corn sugar" on the basis of its composition. A large part of the responsibility for this erroneous conclusion would appear to lie with the laboratory for not doing the sampling themselves.

The Difficulty Can be Avoided

Where bulk honey must be heated for pasteurization, then stored for an extended time before packing, it would seem that the potential difficulties described above could be avoided by adding a small amount of fine-grain crystallized honey to each can or to the batch after it has cooled. We have not verified this in practice, however. This would insure that subsequent granulation be relatively small-grained. Furthermore, it should be easier to liquefy it later without requiring extended heating which could cause flavor deterioration. If this is done, care should be taken not to reinoculate the honey with yeasts, the destruction of which was the original reason for heating the honey. This can be done by pasteurizing a batch of honey for this purpose and seeding it with a commercial honey spread.

Granulated State Natural for Honey

The granulated state is the natural one for most honey; only by the expenditure of time and effort can a granulating-type honey be packed so that it will remain liquid for a reasonable time. Our Canadian friends recognize this and market most of their honey in the granulated form. Much of the honey they produce is of the rapidly-granulating type, which is also a persuading factor.

Since honey is known to vary considerably in its composition, its tendency to granulate also varies over a wide range. From the non-granulating types such as tupelo, sage, and spanish needle to such rapid and hard-granulating honeys as dandelion, blue curl, and cotton, there appear to be all degrees of granulating tendency.

The factors influencing honey granulation have been studied over the years, both in Europe and on this continent. There is still much to learn, particularly in finding a good quantitative correlation between honey composition and its tendency to granulate. The earlier workers in this field were handicapped by incorrect results from the inadequate methods of determining the various sugars of honey. Even though rough correlations were found between the actual granulating tendency of honey and the levulose-dextrose ratio (2), de Boer's "crystallizing property" (KV = glucose ÷ non-sugar) (3), Jackson and Silsbee's granulating tendency calculation (dextrose-water) ÷ levulose), or their supersaturation co-efficient (4), in most cases there were so many exceptions to the rules that they were of little practical value. For example, Jackson and Silsbee's calculations showed that even the non-granulating tupelo honey appeared to be considerably supersaturated with dextrose.

With the recent introduction of an improved method of honey analysis (5) an opportunity has arisen to find a closer relation between granulation and composition. Already Austin (6) has suggested that the dextrose:water ratio gives a more realistic picture of granulating tendency than other indices. He based this on a study of 40 Canadian honey samples analyzed by the new method.

We are analyzing over 500 samples of domestic honey representing all commercially important floral types and blends, using the latest procedures. We hope to find suitable relationships between granulation and composition so that predictions of granulating tendency can be made.

Summary

To recapitulate, the liquefying of coarsely granulated honey can be a source of trouble if the honey flows away too rapidly from the granulated part. The remaining part is a crude dextrose hydrate and of course is no longer honey. This type of coarse granulation generally takes place in heated honey. It could be avoided by intentional seeding of such honey after cooling with a small amount of fine-grained honey.

As we learn more about the composition of honey it should be easier to recognize fast-granulating types and treat them accordingly.

REFERENCES

1. J. W. White, Jr., and J. Maher, **J. Assoc. Offic. Agr. Chemists 37,** 478 (1954).
2. F. Auerbach and E. Bodlander, **Z. Angew. Chem. 36,** 602 (1923).
3. H. W. de Boer, **Bee World** 13 (2), 14 (1932).
4. R. F. Jackson and C. G. Silsbee, Tech. Papers of U. S. Natl. Bur. Stds., T 259, 18, 277 (1924).
5. J. W. White, Jr. and J. Maher, **J. Assoc. Offic. Agr. Chemists 37,** 466 (1954).
6. G. H. Austin, Paper presented at X Internatl. Congr. of Entomol., Montreal, 1956.

(See Editorial Comment, page 737)

HOW I OPERATE MY BEES

HENRY J. TRACY, Lytle, Texas

YOU HAVE asked your subscribers to tell what they know about bees—what I know is not very much but here it is:

I have 25 hives of bees and leave five hives for swarming. I divide 10 hives, pull five combs of brood from each and replace with comb foundation. The next 10 hives I requeen with swarms. I do not destroy queen cells.

Last spring I had 25 hives and built up to 62 hives. In late November I unite back to 25 hives. I took off 5,155 pounds of honey in 1958. There are 700 or 800 pounds that ought to be taken off. I am 62 years old so I will rest awhile.

Now regarding the five swarmers—later I may put a swarm or two on them—if not, give them some sealed brood. There are plenty of bees everywhere. If there is a honey flow you will get plenty of honey. I put as high as three swarms together last spring. Let bees swarm, who cares? This may be better for small bee men, not so much head ache.

I use a screen wire for uniting bees. After 12 or 18 hours I remove the screen and let them go together.

Yes, there were too many swarms of bees for five hives. There were others that did swarm. I just kept uniting them. It worked very well in Lytle.

I start dividing bees here by the first of March, watching the weather and bees. Want dividing finished by March 10th. I use some extra comb foundation in all hives in early spring above my double brood chambers. Once in a while I order some queens or package bees in order to keep good stock.

My ideas are so much different than others, I wonder if they are worthy to be published in Gleanings.

[A method of apiary management that works in one locality may not be suitable for some other localities.—Ed.]

A Christmas Message

HARRIETT M. GRACE, Director, American Honey Institute

THIS HOLIDAY SEASON let us find a few moments away from the cares and concerns of advertising, from the plans for production, and from the management of marketing. Let us spend these moments reverently thoughtful of the story of Christmas and of the opportunity and challenge of the New Year.

Let us turn our ambitions momentarily from the launching of rockets to the launching of good will.

Let us interrupt our skywatching for satellites in their orbit and search out the Christmas Star to let its steadiness and brilliance lead us Christward.

Let us turn from our dreams of space travel to plans for extending our generosity within our own little sphere.

Let us shift our attention from the headline that reports the international race for stockpiling missiles and read the greatest headline of all times that heralds Christ's birth.

Let us switch the TV from the channel that tears the emotions with stories of horror and crime and bring in the channel that tells the story of the Shepherds and the Wise Men and increases our adoration for the King.
Then, inspired anew, let us return with real joy, true peace, sincere good will, and deep reverence, to our daily orbits, to be guided through 1959 by the Code of Christ.

To that end we wish you all Merry Christmas and a Happy New Year.

An Answer to Hornets

Taken from Indian Bee Journal, May 1958

AT THE END of the rains last year dozens of those big, black, deadly, hornets came day after day to attack my bees. Of all the different wasps and hornets that trouble bees, these devils are really the only ones that have to be fought against; for once they gain entrance to a hive they come in hundreds and the hive is utterly ravaged.

By a stroke of luck I discovered their nest down among the roots of a bamboo clump. Not knowing the best and safest means of tackling them I decided to try DDT. I liberally sprinkled DDT powder in and around the entrance, so that no hornet could pass in or out without getting the powder on his feet. Needless to say, I did this late after sunset when the hornets were abed. Next day it did my heart good to witness the results: many lay dead all over in the grass, some were crawling about in a dazed fashion, others would take to the air and rise a bit, then like overloaded heavy bombers they gradually lost altitude and crashed to earth. Within three days there wasn't a single hornet left. I recommend this treatment to other beekeepers who may be troubled with hornets. The remedy is very effective and most easy to apply; the only difficulty is to find the hornets' nest.

XUM

NEWS REEL

Mr. Roberto Martinez Cancio, President of the ASOCIACION SANTIAGUENA DE APICULTORES, demonstrating at a meeting of Apiculturers, the use of modern cures against plagues of the Bees. ESCUELA DE APICULTURA, SANTIAGO DEL ESTERO, REPUBLICA ARGENTINA.—Photo sent by Ing. Agr. M. Katznelson, Apiaro "El Pino" Republic of Argentina.

In Holland there is once a year a bee market about 200 years continuous. The old hand fashioned straw bee hive is still used by the old timers in the photo.—Photo by C. F. Kleiss, Wageningen, Holland.

AMERICAN HOME ECONOMICS CONVENTION BOOTH — The American Beekeeping Federation, Inc., The National Honey Packers and Dealers Association, along with The American Honey Institute and The California Honey Advisory Board cooperating were sponsors of this convention held in St. Louis, Missouri, June 1957.—Photo by Eugene Taylor.

4-H Beekeepers compete at the Santa Clara County Fair, California. Members Rick Davidson, Lem Borden, John Katavich, George Nieman, and Gregory Laurence (missing) with their entries of bees, honey, and beeswax. Premiums included awards on both leather Italians and grey Caucasian bees. — 1958 Santa Clara County Fair photo.

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Editorials

Yuletide Greetings to All

AS WE APPROACH another Christmas season our hearts are warmed with the thought of family groups everywhere gathered around firesides enjoying the festive season. Our Gleanings staff wish all of our readers a Joyous Yuletide season and in the words of Tiny Tim, "A Merry Christmas to All".

Express Rates on Bees Not Advanced

WE ARE GLAD to learn from W. W. Wicht, Hattiesburg, Mississippi, chairman of the Express Rates Committee of the Federation, that a report has been received from the Interstate Commerce Commission, that even though there has been a recent advance of 15 per cent in express charges on most commodities, there will be no increase in express rates for live bee shipments, for the coming year.

This will be good news for bee shippers and beekeepers who buy package bees in the spring to make up winter losses and start new colonies. Mr. Wicht and his committee are to be congratulated on their efforts in behalf of our industry.

The Check-Off Plan

CONSIDERABLE DISCUSSION has centered around the Check-off plan. It would seem that this plan is fundamentally sound. However, not enough beekeepers participated in it to raise the necessary amount of money needed for advertising our product.

The comparatively small amount required to participate in the check-off plan, one cent per 60 pound can by the producer and one cent by the packer is so small that it would hardly be missed. In our opinion the amount should be more. It may yet be necessary to give the check-off plan a real test in order to move future honey crops.

Bees Generally in Good Winter Condition

AS WE RECEIVE reports from over the country it would appear that weather and plant conditions have been favorable in most areas for bees to fill up their brood chambers with honey and pollen for winter and early spring stores. There are, of course, a few spots over the country where dry weather prevailed, which prevented bees from storing much fall honey. It will be necessary in such areas for beekeepers to feed thick sugar syrup to supplement the deficiency in natural stores. We hope beekeepers may do this, rather than permit their bees to go into winter short on food. Beekeepers can take advantage of mild spells of weather to feed bees warm sugar syrup, even during early December.

Upper Ventilation for Bees in Winter

AS WE READ reports from various sections of the country regarding different methods of wintering bees, we note with interest that the majority of beekeepers provide a small opening in the upper part of the hive, for ventilation.

The late J. E. Crane of Middlebury, Vermont, was one of the first to use an auger hole some distance above the main entrance. If we are not mistaken Mr. Crane wintered in single story brood chambers. One reason for this auger hole, about three-quarters of an inch in diameter, was to permit the bees to fly out of this hole in the event that the main entrance became clogged with dead bees or ice during cold weather. Beekeepers who have a few hives in the home apiary can be on hand to check on hive entrances during a sleet storm but beekeepers having outapiaries some distance from home may not be able to visit them at the proper time.

After two story wintering became common, beekeepers adopted the method of boring a small hole in the middle of the front of the upper chamber, since bees usually cluster near the top of the hive.

It has been said that it is excess moisture and not cold that kills bees during the winter. This upper entrance permits bees to expel excess moisture that may accumulate during the cold winter months and it also gives bees a chance to fly from the upper entrance in case the lower entrance becomes clogged.

Regarding Coarse Granulation of Honey

THE VERY able and factual article on dangers of liquefying granulated honey by Jonathan W. White, Jr., page 730, deserves a careful reading. That there can be the danger of an unintentional separation between levulose and dextrose is very evident. However, Mr. White makes it clear that the danger is greater when the honey being liquefied is only partially granulated where the coarse crystals indicate, presumably, that a partial separation has already taken place. Under such conditions when 60 pound cans are inverted in a relatively high temperature the honey rich in levulose drains out first leaving that rich in dextrose still in the can. If this latter is finally melted and run by gravity or pumped into a tank containing the honey that passed out first, the separated portions, if there is a circulation afforded in the tank, can be again united.

During the years that we were packing honey commercially and shipping in huge quantities we fortunately never had an instance of honey left in the 60 pound cans that refused to liquefy. If the original honey is only partially granulated and the crystals are large and coarse there can be a danger, as Mr. White points out, that the separation already under way can be actually accentuated in that a matter already bad, so to speak, can be made worse.

The great majority of commercial packers according to our observation are conscientious, careful, and alert. While perhaps never meeting such a situation described, they nevertheless will agree with all packers, large and small, that Mr. White's article is timely and one that deserves careful attention.

A Splendid Article on Honey

CORONET MAGAZINE for November 1958 contains an exceptionally well written article on "Honey the Wonder Food", by Norman and Madelyn Carlisle. Very well expressed is the natural history of honeybees, and the value of honey for adults and especially children is interestingly shown. Too often the minerals and enzymes in honey are overlooked. Here the writers show the value of these vital minerals so lacking in many of our denatured foods today. Honest statements by real doctors are given as are results being obtained in hospitals.

All Roads Lead to Tampa

THE COMING National Beekeepers' Federation meeting to be held in Tampa, Florida, January 26-30, 1959, should draw a goodly attendance from over the continent. Those living in frigid climates will welcome the opportunity of basking in the southern sunshine for a few days and enjoying southern hospitality. It seems necessary for beekeepers and those affiliated with our industry to get together at least once a year, to solve our problems and make plans for the future. An excellent program is in store for those who attend. So, we'll be seeing you in Tampa.

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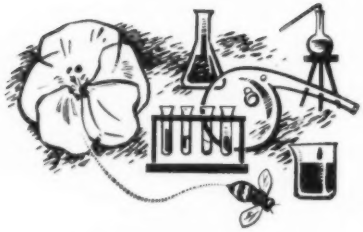


Research Review

RALPH L. GHENT
Student in Apiculture
Cornell University, Ithaca, N. Y.

Honeybees for Crimson Clover Pollination:

IN A THESIS presented to the University of Illinois, G. H. Blake has described experiments using honeybees for the pollination of crimson clover in Alabama. It had previously been established that increased yields of seed could be obtained where only one colony of bees was used per acre of clover, but it was not known what was the most economical number for efficient pollination. These experiments, carried on over a four-year period, showed that an increased yield of over 800 pounds per acre could be obtained, using three colonies per acre. However, it was calculated that the most economical practice is to use two colonies per acre, which, in this experiment, resulted in an average increased yield of from 280 to 510 pounds per acre over the yield from areas from which bees had been excluded.

Blake, G. H.
The influence of honeybees on the production of crimson clover seed. Journal of Economic Entomology 51: 523-527. 1958.

Effects of Feeding Dry Sugar:

FROM CZECHOSLOVAKIA comes a report of experiments carried out some time ago, but noted only recently in this country. The authors found that honey produced by bees which had been fed crystalline sugar exhibited three times the invertase activity and twice the diastase activity of honey produced by bees which had received only natural food. This indicates that the bees which had been fed the dry sugar had an increased glandular activity. The authors suggest that this increased activity would tend to shorten the lives of the bees.

Neprasova, L. and J. Svoboda
Feeding bees with dry crystalline sugar. [Tranlated title.] Vcelarstvi 9: 35. 1956.

Isolation of a Constituent of Royal Jelly:

IN THE Max Planck Institute of Biochemistry at Munich, Germany, A. Butenandt and Heinz Rembold have for some time been investigating the chemical composition of royal jelly. They report the discovery of a compound in royal jelly and also in queen bee larvae which is not present in worker brood food, nor in worker larvae. They state that this is the first time a qualitative chemical difference has been found between the composition of royal jelly and the food of worker brood.

This compound has been identified as biopterin, a nitrogenous compound which had previously been isolated from the fruit fly, **Drosophila melanogaster**, and which is closely related to another compound, xanthopterin, found in butterfly wings. Biopterin is thought by some biochemists in this country to be used as a building block in the bodies of some organisms for the formation of the folic acid vitamins.

Butenandt, A. and H. Rembold.
The royal jelly of honey bees II. Isolation of 2-amino-4 hydroxy-6 (1, 2-dihydroxypropyl)-pteridine. [Translated title.] Zeitschrift fur Physiologisch Chemie 311: 79-83. 1958.

(Continued on page 759)

FROM Foreign LANDS

Translated and Edited by ERIKA BARTH, San Antonio, Texas

Hives Kept in Shade Produce More Honey:

EXPERIMENTS IN the USSR (by V. A. Nestervidskii) have shown that hives kept in the shade, when air temperature reached 79-81 degrees F., produced 10 to 40 per cent more honey than those not shaded.

Indian Bee Journal, Feb., 1958.

The Bee's Fight for Existence:

OFTEN WE ASK ourselves, how was it possible for the bee with so little weight and such low body temperature to have endured and lived through the ice age.

The reason for this can be said in one sentence: The individual gives herself up to the community. This community wages for all the fight for existence.

An observant person and beekeeper can see certain principles which automatically insure the survival of the colony. These are:

1. Any sacrifices, efforts, and care, are made for brood.
2. Multiplication, however, is always adapted to life's situations.
3. There are no idlers, the end result is made up of all the efforts of the whole colony.
4. Sick bees, and at the right time, drones, are rejected without regard.
5. Work is divided in such a fashion that at a specified time every single bee performs every chore in the hive.
6. Every bee will give her life without hesitation for the colony.
7. Bees work a maximum for the colony without privileges for the individual.
8. There is no hierarchy, no democracy, and also no authorized leadership, and yet the colony performs without complications.
9. There is no worry about their own beings, they are merely a part of the colony, similar to a cell in the human body.
10. The swarming instinct is like an act of providence. It affects the bees like a call, to populate this earth, and to fill all areas that offer a living potential.
11. After a set-back of any kind, the whole colony starts anew, and forges full strength ahead. Discouragement is unknown.
12. Strength lies in complete agreement. It makes a colony capable of unusual feats, such as getting the supplies for the winter, expanding the hive, and production of warmth, especially in winter.

This surely unconscious behavior on the part of the bees has saved them from destruction for millions of years, right up to our time.

L'apiculteur Alsacien

Americans in Korean Journal:

MANY WILL remember friendly Dr. Young Tai Cho, M.D., Korean beekeeper who visited this country last year. Besides keeping bees, Dr. Cho also serves as publisher and editor of the KOREAN BEE JOURNAL. A recent issue of this journal was sent to my attention, and while there was little that I could understand, I was able to appreciate the cover picture showing Dr. W. W. Maxwell of San Antonio, Texas, Mr. C. C. Dadant, and Dr. Cho. The scene was the 1957 Texas Bee Association meeting. Keep up the good work, Dr. Cho.

Greetings to Readers:

IT WILL SOON be holiday time once again and I want to take this opportunity to wish all of those who take their valuable time to read my column, a very "Merry Christmas and a Happy and Prosperous New Year".

XUM

Live and Learn

by Propolis Pete

WELL, HERE WE go again, wrapping up the bees to end another season. What good it does to wrap bees is a debatable question, but one thing is sure. It doesn't do any harm. So, long as you don't make a project out of it, you are not losing much, and probably are gaining something.

Back in 1935, the first year that I owned a colony of bees, I had to feel my way around. This is very poor honey country, and there were no beekeepers around that anybody knew about. So I couldn't ask anybody. Since then I have located a dozen or more of people around who have a box or two of bees behind the barn, but nobody keeps them in the sense that they work them. The bees are on their own. So was I, with nothing but a thin pamphlet bought from one of the mail order houses as my bible. I hadn't heard about the bee supply houses yet, and the only books that I could find in the library were so old that I knew that they were worthless.

In those days heavy wrapping was the only way to winter out of doors. My little book warned against trying to let the bees stay on their stands, unless I was satisfied to lose at least half of them. If, however, no cellar could be found, it would have to be done, but only after making extensive preparations. I spent a whole weekend making a massive box out of two by fours and heavy roofing. It took a half a day to rake leaves, cart them to the stand, pound them down in the cases, and then nail on the elaborate cover that I had made. Strangely enough the bees wintered perfectly in that overgrown refrigerator. Incidently, I had two colonies to winter. I had started with one mail order package in April, but instead of putting up any surplus honey, they had declared their independence on July 4. And so I had two of them.

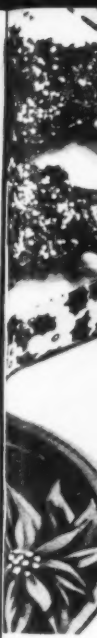
One mistake I made was to build these cases so well that I had to wreck them to upack. Being well bitten by the bee bug, I had five colonies to wrap at the end of the second year. Going through that ritual again was too much even for my enthusiasm, so I compromised by getting a roll of heavy roofing stuff that looked like black linoleum. This came 36 inches wide, and by cutting a length that would go around the hive, I had a case that would go up fast, come down fast, and last a long time. I figured that loose leaves would be even better as insulation, wouldn't take as many per colony, and would save the time of pounding them down. I did the five colonies in about the same time as I did the two the year before.

The following spring I found to my horror that the leaves had settled inside the wrapping, and, instead of insulating the hive, had formed a foot warmer about six inches thick at the bottom of the case. In other words my bees had again wintered perfectly with nothing around them but some heavy roofing and about six inches of dead air space. I was amazed.

Along around this time I had found a bee club in a nearby state. It took me two hours to get to the meetings, and two hours to get home after the meetings, but you couldn't keep me away with a snow storm. One of the members there had an heretical theory that successful wintering depended upon four things, and only four things. Big clusters of young bees, plenty of stores, elimination of interior moisture, and wind proteciton..

That did it. I tried out the whole yard that next winter, 18 colonies by then, with all four requirements. The wind protection was a tar paper wrap, with some old burlap bags for insulation on the top of the hives, a roofing nail slipped under the inner cover for ventilation, and a natural thicket that just happened to be in the right place for protection on the north and west. I still do the same thing after all these years, although I have modified it some to the point that each colony takes about two or three minutes if I hurry. The 15-pound tar paper that I use for a covering is cut 18 inches wide, and I forget how long. I get four or five years out of each piece, and have not cut any for quite some time. It covers the three sides that don't get winter sun, and is held in place with odds and ends of lath or split shingles that happen to be

(Continued on page 749)



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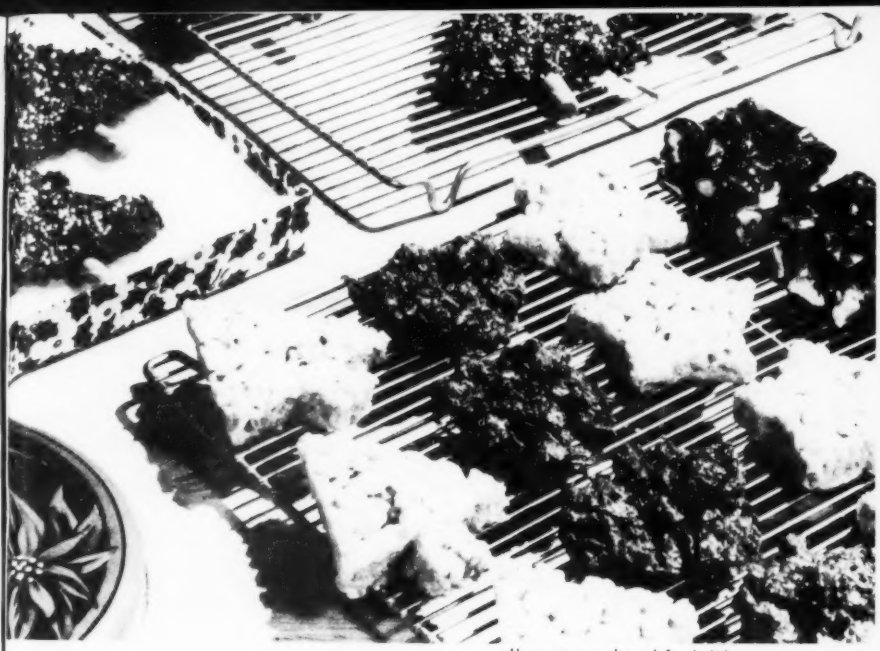

Honey treats shaped for holiday sweets.

Honey Treats for Holiday Sweets

MRS. BENJ. NIELSEN
Aurora, Neb.

MAGAZINES ARE filled with recipes for delectable goodies and scrumptious sounding sweets for a gay holiday season. As we flip through the pages, we would like to try so many. Our vote usually goes for the honey-way ones! We know we can make those confections early, ahead of last minute preparations, and flavor and goodness are actually improved with waiting. Too, there is a subtle flavor to honey-way goodies not equaled by ordinary run-of-the-mill goodies.

Here's hoping you will enjoy these honey-way treats as much as we do. And, with these recipes come warm and sincere wishes to you and your family for a happy holiday season.

Chocolate Honey Crisp

One-half pound semi-sweet chocolate, 1 tablespoon honey, 6 marshmallows, and 1 cup crisp rice cereal.

Line sides and bottom of an 8 x 4-inch pan with waxed paper. Melt choc-

(Continued on page 759)

Spanish Needles (Bidens Aristosa) Photo by Lovell.

Let's Talk About HONEY PLANTS

HARVEY B. LOVELL
University of Louisville
Louisville, Kentucky

Spanish Needle Honey. Mr. Gilbert Perigo writes me as follows: "Under separate cover I am sending you samples of heartsease and Spanish needle honey. The heartsease is from White County and the Spanish needle honey is from Pike County, Indiana.

"The Spanish needle is, I believe, about as heavy a bodied honey as we ever get in Indiana, while the sample of heartsease is possibly a bit higher in moisture content than normal.

"As you of course know, the quality of honey flavor is largely a matter of personal opinion, but to me this Spanish needle honey is above average in flavor.

"My own bees are located in northeastern Indiana. I had one apiary of 25 colonies that made an average of about 100 pounds, but some others in the same county made only a 60 pound average, and some in an adjoining county made only a 40 pound average."

I checked the two samples on a refractometer and found that the Spanish needle honey was very heavy with only about 14 per cent water, and the hearts-

ease was somewhat thinner with 17 per cent water but even this was above average in sugar content.

Elmer Albin writes from southern Indiana that "I have an apiary near Lynnville, Indiana, that produced 29 sixty-pound cans of Spanish needle honey from 62 colonies, for an average of 28 pounds per colony. The apiary had produced about 1000 pounds of sweet clover which was harvested in mid-August. The empty supers were put back on at that time so I am sure this is nearly all Spanish needle honey. The location is largely hilly, uncultivated farm lands that have been bought up by strip-mining companies. Lots of broom sedge grows there so I imagine the land is sour. This is the fourth year the apiary has been at this location and it is the first time I have had a fall surplus." The can of honey received from Mr. Albin is a beautiful yellow color with the rich full flavor so typical of Spanish needle honey.

Quebec. Fourteen miles south of Quebec City we saw a neat apiary by the side of the road. We stopped and met the owner, Phillipe Tremblay of Chaudiere Station, who proved to be a beekeeper with 40 years experience. This past spring he had driven his truck to Moultrie, Georgia, to pick up 1000 packages of bees, some for himself but most of them for the Quebec Beekeepers' Association. He makes a 200 pound average of clover honey from his 40 hives, all of which are kept on his extensive farm. In the fall a small amount of honey is stored from **verge d'or,** his name for goldenrod, but it is left for winter stores. In case foul brood is found in Quebec, the government reimburses the beekeeper for any and all equipment burned but not for the bees. His brother Arthur Tremblay is a bee inspector in the northern part of the province. Actually there is almost no foul brood in Quebec. Does any American state reimburse the beekeeper for material destroyed by burning up foul brood? If not, why not!

New York. A few miles south of East Aurora, Henry Genthner had a roadside stand selling farm vegetables and honey. I could tell in a minute that Mr. Genthner had a wide experience with bees and I soon found that, like many beekeepers I have met, he had kept bees in many different climates. He formerly ran 1500 colonies in the Sacramento Valley of California around 1905, where he made alfalfa, sage, and orange honey. He also worked for a queen breeder named Achord for two seasons near Montgomery, Alabama. In New York he has made alfalfa honey only once—some 10 years ago during a very dry season. He smokes his queens down into the brood chamber and puts on an excluder just before the clover season opens. He finds that 90 per cent of the queens will go down if he avoids smoking the entrance.

I also interviewed a retired beekeeper, Dick Haller in East Aurora, who formerly had 500 colonies. He had also worked in Florida where he once purchased an apiary of 80 colonies and rented it for the season for $1,000. Mr. Haller formerly had an apiary near Nunda, New York, 60 miles from East Aurora, where he made a pure basswood (Linden) honey. The trees begin to bloom around the 15th of June and a few trees may be still in blossom until the first of August. Sometimes his basswood honey would sour. On one occasion he had a lot of sour basswood honey and four days later his combs were empty. The bee inspector who came by at the time suggested that the bees had taken the sour honey from the hive and dumped it. Mr. Haller still keeps a few hives (8) in his back yard for pleasure and last year made a 131 pound average.

DISGUSTING

From October 1958 Bee Keepers' News but originally appeared in September Scottish Beekeeper.

"I saw a beekeeper at a show—dipping his glass taster into his honey and offering it to his victim to taste direct from the taster, which he used again and again without cleaning. When he ran out of customers he licked the taster and put it in his vest pocket till it was wanted again."

An irate visitor dashed angrily up to the beekeeper and complained, "One of your bees stung me and I want you to do something about it". The beekeeper answered soothingly- "Sure lady, you just show me which one it was and I'll punish him".

Beehives Show Intelligence of Creation, Pope Says

In the November number we printed an extract from a letter by Jas. I. Hambleton telling of the gracious interview Pope Pius XII granted the beekeepers in attendance at the International Apicultural Congress. This was just before the sudden death of the Pontiff. Following is a summary taken from the September 25 issue of the Pittsburgh Crusade, of the talk given by the Pope. Evidently it was one of his last public utterances before his death on October 8.

THE MARVELS of the beehive demonstrate the divine intelligence which guides creation Pope Pius XII told the International Apiculture Congress here.

He turned to the naturalist, the mathematician and the philosopher as they would see the beehive aand concluded that "the intelligence that directs the organization of the beehive and the life of the bees is God's, who created the heavens and the earth."

"If one were to conduct a research on the origin, function and scope of the beehive," the Pope said, "the naturalist would tell him that the cells are made of wax and are constructed to contain the honey destined for nourishment of the larvae.

"The mathematician would immediately add that bees construct cells in a hexagonal form, in such manner that the prisms have a maximum capacity of content for a minimum of wall space and he would note furthermore, that the three planes which form their angles meet with mathematical precision.

"Thence he might conclude the bee has resolved, and for a long time, a very ancient and difficult problem of transcendental mathematics which remained the object of the study of many wise men up until recent times.

"The observations of the naturalist and the deductions of the mathematician," he continued, "give the point of departure to the reflections of the philosopher who sees in this the work of an intelligence capable of forseeing an end, and of fixing with precision the means required to arrive at that end.

"What might this intelligence be? The philosopher excludes without hesitation that it could be attributed to the bees. These perform their tasks and very well, but they comprehend nothing: they are capable of making progress and have obeyed for milleniums the instinct which vigorously determines their individual conduct even though it permits certain adaptations."

Arriving at the only possible answer, the Pontiff exhorted his hearers to "see the Lord in the work of the beehive before which you stand enraptured. Adore Him then and praise Him for this reflection of His Divine Wisdom.

"Praise Him through the wax which is consumed on altars, symbol of the souls which wish to burn and consume themselves for Him", he added. "Praise Him for the honey which is sweet, but less sweet than the words of which the psalmist sings which are 'sweeter than honey' ".

1958 Honey Production and Stocks on Hand September 15 For Sale

State and Division	Colonies of bees		Yield per colony		Honey production		Honey for sale in producer's hand on Sept. 15, 1958
	1957	1958 1/	1957	1958 1/	1957	1958 1/	
	Thousands		Pounds		Thousand pounds		Thousand pounds
Maine	6	6	32	18	192	126	35
N. H.	8	9	47	32	376	288	130
Vt.	11	11	55	38	605	418	100
Mass.	18	19	18	17	324	323	74
R. I.	2	2	19	20	38	40	9
Conn.	14	16	18	19	252	304	106
N. Y.	189	197	61	42	11,529	8,274	3,558
N. J.	30	35	18	24	540	840	185
Pa.	135	143	27	24	3,645	3,432	1,030
N. Atl.	413	439	42.4	32.0	17,501	14,045	5,227
Ohio	301	301	26	18	7,826	5,418	1,950
Ind.	186	182	35	30	6,510	5,460	1,802
Ill.	163	163	45	25	7,335	4,075	1,834
Mich.	158	158	57	45	9,006	7,110	3,200
Wis.	194	196	74	75	14,356	14,700	8,526
E. N. Cent.	1,002	1,000	44.9	36.8	45,033	36,763	17,312
Minn.	248	241	84	107	20,832	25,787	11,862
Iowa	158	164	76	68	12,008	11,152	4,684
Mo.	117	122	26	31	3,042	3,782	1,021
N. Dak.	24	28	110	110	2,640	3,080	1,386
S. Dak.	39	46	130	140	5,070	6,440	966
Nebr.	57	61	70	90	3,990	5,490	1,427
Kans.	40	44	33	42	1,320	1,848	647
W. N. Cent.	683	706	71.6	81.6	48,902	57,579	21,993
Del.	3	3	25	26	75	78	23
Md.	29	29	25	26	725	754	392
Va.	146	139	24	21	3,504	2,919	847
W. Va.	108	105	14	16	1,512	1,680	218
N. C.	187	183	20	14	3,740	2,562	640
S. C.	57	55	26	22	1,482	1,210	218
Ga.	217	213	31	31	6,727	6,603	1,387
Fla.	263	274	72	57	18,936	15,618	5,466
S. Atl.	1,010	1,001	36.3	31.4	36,701	31,424	9,191
Ky.	136	116	14	24	1,904	2,784	612
Tenn.	170	155	14	21	2,380	3,255	488
Ala.	191	191	15	19	2,865	3,629	653
Miss.	77	72	20	25	1,540	1,800	540
Ark.	88	85	20	23	1,760	1,955	313
La.	92	88	23	27	2,116	2,376	950
Okla.	43	47	19	25	817	1,175	411
Texas	266	261	45	48	11,970	12,528	4,761
S. Cent.	1,063	1,015	23.8	29.1	25,352	29,502	8,728
Mont.	74	78	105	75	7,770	5,850	3,627
Idaho	182	186	73	66	13,286	12,276	7,611
Wyo.	37	37	85	105	3,145	3,885	2,331
Colo.	67	61	62	72	4,154	4,392	2,987
N. Mex.	10	11	80	75	800	825	478
Ariz.	89	101	63	70	5,607	7,070	3,888
Utah	53	51	65	50	3,445	2,550	1,912
Nev.	8	9	95	63	760	567	454
Wash.	92	100	49	50	4,508	5,000	1,850
Oreg.	54	53	42	32	2,268	1,696	746
Calif.	559	553	40	70	22,360	38,710	19,355
West.	1,225	1,240	55.6	66.8	68,103	82,821	45,239
U. S.	5,396	5,401	44.8	46.7	241,592	252,134	107,690

1/ Preliminary — U.S.D.A. Agricultural Marketing Service, Washington, D. C., October 9, 1958.

This apiary packed for winter is sheltered from winter winds by a cedar swamp. The bees are wrapped in tar paper and packed with saw dust. The owner of the bees is George Willoughby, Brant, Michigan. His wife and son Gordon are shown. Weather gets cold in northern Michigan during the winter.

A Talk To Beekeepers

It is better to have no education and common sense, rather than education and no common sense.

M. J. DEYELL

AT THE CLOSE of another year and bee season we should perhaps take time to review briefly, our beekeeping activities and mention some of the mistakes most beekeepers are likely to make.

Someone has said that the only people who do not make mistakes are those who never try to do anything. Such people usually criticize those who do make mistakes.

We should try to make our mistakes stepping stones to success.

If some of you have never made any of the mistakes mentioned in this article, you should be thankful. We shall start at the beginning of a season and follow through until its close.

1. **Failure to visit outapiaries early in the season.**

In the north it seems necessary to visit outapiaries quite early, on the first

good flight day to plug up the entrances of hives containing colonies that may have died during the winter, to prevent robbing later on. Some such colonies may be diseased and leaving the entrances open is one way to spread disease, especially AFB.

It is well also, to check on stores. This can be done by lifting one end of each hive. If the colonies are heavy and feel like lead it is unnecessary to open the hives to check on the amount of honey in the combs. If the hives are light they should be marked for feeding, soon as possible. We use a brick on top of each hive. If a colony needs to be fed, the brick is put on edge. The colonies that are all right but light should have bricks laid flatwise. One can tell, at a glance, when returning to the yard, which hives need attention.

2. **Failure to supply supers where needed.**

In some sections of the country there may be a heavy early flow from fruit bloom and dandelion which may cause some populous colonies to build queen cells and swarm, unless supers are put on.

Where outyards are some distance from the main road it is an advantage to have a few supers at each yard, piled up mouse-proof during the winter, ready to put on in the spring, when needed. In some cases it may be impossible, due to rainy weather, to drive a truck from the main road to the apiary. Having a few supers in each yard avoids carrying supers from the road to the yard. That is hard work.

3. **Installing packages too late.**

Some make the mistake of putting packages of bees into hives too late in the spring to have them build up into populous colonies that will store the maximum crop of honey the same season. It takes eight or nine weeks for a package to build up to maximum strength, some say 10 weeks. There should be time for at least three cycles of brood.

Some make the mistake of failing to give packages the necessary amount of food, sugar syrup or combs of honey. In areas where cool rainy weather prevails during the spring season, it is an advantage to feed packages of bees

These hives owned by C. E. Saunders, Nutwell, Broadstairs, England, are located behind a boarded fence, which shelters them from cold, north winds. It also causes the bees to rise high when flying over it, clearing traffic and people on the busy road on the other side of the fence.

XUM

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continuously, until the major honey flow starts.

4. **Failure to detect disease.**

During the spring honey flow it is well to examine each colony carefully in order to detect any signs of disease. This should be done prior to the beginning of the major honey flow, in order to take care of the disease, also to avoid having supers that might be put on, contaminated with the disease.

5. **Failure to have all colonies up to full strength for the major flow.**

In some instances much of the honey crop is lost, due to having under strength colonies. It is necessary to replace poor queens with good vigorous queens that will produce populous colonies.

Some beekeepers make a practice of equalizing the strength of colonies during the spring months which may be done by taking combs of sealed brood from populous colonies, to give to under strength colonies. One should make sure that no disease, especially AFB, exists in the apiary, since exchanging combs of brood might spread the disease.

A good way to boost the strength of a weak colony is to give it a package of bees without a queen, at the right time in the spring.

6. **Failure to supply comb space during the major flow.**

It seems safe to say that most of the swarming that occurs is due to congestion within the hive and this in turn is due to the lack of comb space for brood rearing and for the storage of incoming nectar and pollen. It is an advantage to supply comb room a little in advance of the time it is actually needed. It is better to have too many supers in an apiary, rather than too few.

7. **Getting bees unduly stirred up.**

This applies mainly to bees kept in towns and villages in thickly populated areas. Hives of bees in such areas, if not handled properly, may cause trouble among neighbors. It is safe to say that much of the trouble with bees stinging people in towns and cities is due to improper manipulation of hives. Colonies of bees should not be opened for examination when the weather is cool. Bees resent being handled, early in the morning, late in the evening or during cool days. If bees are handled properly during warm weather when

they are carrying in nectar, they are not likely to cause any trouble.

An inexperienced beekeeper may leave some combs of honey outside, exposed to bees during a dearth of nectar. This is likely to cause bees to rob and bees that are robbing are likely to sting any living thing in sight.

8. **Failure to get food chamber well filled for winter**

It is an advantage to have the food chamber well filled before the end of the season. Colonies that are operated in double brood chambers will usually have the upper chamber, commonly called the food chamber, quite well filled with honey, especially in areas where there is a heavy fall flow. We have found that it is an advantage to place a queen excluder underneath the food chamber or above the bottom chamber, during the late summer and fall months, in order to be assured of having the food chamber well filled for winter, assuming of course that conditions are favorable for a honey flow.

9. **Mistake of leaving the queen excluder on during the winter.**

Beekeepers in the south where the weather does not become too cold during the winter may leave queen excluders on. However, it is a mistake to leave queen excluders on in northern areas, because, the winter cluster may form in the food chamber or upper story and the queen being confined to the lower chamber cannot get up into the middle of the cluster and therefore dies during the winter.

LIVE AND LEARN

(Continued from page 740)

handy at the time, with a brad or frame nail holdng them in place without tearing the paper.

How my bees will come through this winter is anybody's guess. Thanks to a heavy flow of aster, even my weakened colonies have what I think is enough stores. The clusters are rather small, but are mostly young bees, thank goodness. This is the result of my troubles last summer, and I am still waiting to hear what the laboratory found. Whether it means anything or not, the young larvae that died, did so when about three days old. According to the books, this is when the nurse bees change them over from royal jelly to pollen. Could it be poisoned pollen?

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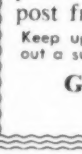
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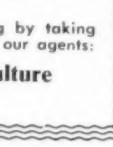

Season 1958 passed, now booking orders for 1959 at 1958 prices until Dec. 31. Season permitting will have queens early March 1959. 10% deposit holds order for early shipment.
Season's Greetings from
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Asked &

Long-tongued Bees for Red Clover

Q. Are there not what are called long-tongued Italian bees especially bred for working on red clover? We have a lot of red clover growing here in the midwest.

A. There is a difference in the length of the tongue of different strains of Italian bees and no doubt the longer-tongued strain are able to secure more nectar from red clover than those having shorter tongues. Some seasons almost any good strain of Italian bees gather considerable from red clover, possibly because of shorter tubes in the clover blossoms or because of more abundant nectar secretion making the nectar stand higher in the tubes which would permit the bees to reach a portion of it.

Balling the Queen

Q. What is meant by balling a queen?

A. When bees are hostile toward a queen they will cluster about her very thickly, sometimes forming a ball of bees anywhere from one to three inches in diameter. Every bee in the ball seems to be struggling to get at her to sting her. Unless she is released she will either be smothered or stung to death. To release her use plenty of smoke, blowing it on the ball until the mad bees disperse, and then pick her up and cage her. Another and better way is to dip the ball in a pail of water, when the bees will immediately float away from her.

Entrances Closed by Sleet

Q. Do large commercial honey producers who have several out-apiaries go out after a sleet storm to open up the entrances of the hive?

A. While it is true that entrances may be closed by sleet, ice, snow, and dead bees, no difficulty will occur when the upper entrances are provided. Generally, one such entrance should be in the form of an auger hole 5/8 inch, 3/4 inch, or 1 inch in diameter, about 2 inches from the top of the frames. This will prevent closing of the lower entrance. It has the further advantage of allowing excess moisture to escape and thus keep the space around the cluster dry, and also keep the packing material dry.

Answered

Confining Bees in Hives During Winter

Q. Last winter I fixed my colonies in the attic with a wire screen over the entrances inside for ventilation but closed from out of doors. In December they became quite restless and the dead bees nearly closed the entrance. What was the cause of their restlessness?

A. The bees were restless because they were imprisoned within the hive. The entrance cannot safely be closed in this way during the winter even when the bees do not fly, because as soon as they discover that they cannot escape from the hive they become greatly excited and soon die in great numbers from exhaustion. It is necessary to leave a small opening at the entrance during the winter.

Sting of Queen

Q. Is the sting of a queen bee barbed?

A. According to R. E. Snodgrass, specialist in honeybee anatomy, the sting of a queen is barbed. Here is what he says:

"The sting of the queen is longer than that of the worker and is more solidly attached within the sting chamber. Its shaft is strongly decurved beyond the bulb. The lancets have fewer and smaller barbs than those of the worker, but the poison glands are well developed, and the poison sac is very large."

Getting Speakers

Q. We would like to get beekeeping specialists from outside of our local area to address some of our regular meetings. Can you offer us any suggestions on how this can be done economically and conveniently for everyone involved?

A. The first step would be to contact your Chief Apiary Inspector and/or your Extension Beekeeping Specialist at your State University and try to get them to address at least one or two of your regular meetings. Since you represent a county association it is rather difficult to get out-of-state speakers due to the cost involved. However, if you were to plan your meeting for either a day prior or a day after the regular meeting of the State Beekeeping Association, then it is likely you could induce some of the speakers attending the state meeting to stop off and speak to your group. At least, it would be worth your while to advance this idea to any speakers you have in mind.

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NEWS and EVENTS

SOUTHERN CONFERENCE
Tampa, Florida
January 26 and 27, 1959

(Reported by Charlotte — Secretary to H. L. Maxwell, Progran Chairman)

Hi, everybody! I'm Charlotte — remember me? I remember so many of you at the Southern Conference at Winchester, Virginia. Everyone was so nice, and all seemed to have such a good time.

Mr. Maxwell is serving as Program Chairman this time, and has asked me to write you about our plans for the next meeting in Tampa, Florida, January 26 and 27 at Hotel Hillsboro (the Executive Committee will meet Sunday night at 8:00).

To those of you who are new, our group is officially known as Southern States Beekeeping Federation, representing 13 South Eastern States. A note from its history: ". . . Organized at Texarkana, Arkansas, January, 1928. Some friends got together in a good-fellowship effort. They spelled out their purpose: 'It is planned to hold an annual get-together to discuss problems and compare experiences. . . The sense of the whole meeting is for hearty co-operation among these Southern States —(and neighbour states who wish to come in)—in all matters pertaining to Apiculture. . . '"

This will be a busy time in Tampa. The American Beekeeping Federation will meet for several days in the same week, also A.P.I.A., plus National Honey Show. The largest assembly of beekeepers of all time are expected. Our group, members of SSBF, should also plan to stay for the other meetings, and everyone is invited to ours. Mr. Maxwell says: "Between the programs of SSBF and ABF and affiliated groups, every IMPORTANT PROBLEM in the bee industry should be capably dealt with, and every person attending these meetings should find it a profitable and rewarding experience."

He says further, "Southern Conference meetings are open forums—the Town Hall of beemen. . . We plan to hold a one day session on Monday 26, with a tightly knit and balanced program; declare Tuesday a holiday, and will hold our banquet Tuesday night—(and, some special talent is being saved for the banquet). The program will be loaded with talent, and will cover the gamut of the problems of the South East. . ."

As I help work up the program, I see some of the names of the speakers who made such an impression in Winchester last year. Mr. Mraz of Vermont will treat on insecticides; Mr. Stoller of Ohio will cover honey packing and selling—(the way the independent packer does it); and I see two well known names listed under titles, The Forces that Make a Honey Market, and Report on The National Honey Market Today. Mr. Maxwell says these two

(Continued on page 755)

Buy and Sell

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WANTED—White extracted or comb honey. Send sample. MILLERSPORT HONEY CO., MILLERSPORT, OHIO.

BEESWAX WANTED—Highest prices paid in cash or trade for bee supplies. THE A. I. ROOT COMPANY, MEDINA, OHIO; COUNCIL BLUFFS, IOWA; SAN ANTONIO, TEXAS.

WRITE FOR SHIPPING TAGS and quotations on rendered beeswax. We buy from one pound up and if you have over 25 pounds let us work it into foundation for you at a 25 per cent saving. WALTER T. KELLEY CO., CLARKSON, KY.

WANTED — Light amber clover, fall flowers, buckwheat and white clover. Send sample and lowest price. CLOVERDALE HONEY CO., FREDONIA, N. Y.

WANTED—Honey in 60 pound cans, also beeswax any quantity. L. E. ALLEN, TIPTON, MICH.

WANTED—Buckwheat and light amber honey. EASTERN FOOD PRODUCTS, 421 BEDFORD AVE., BROOKLYN, N. Y.

CASH for Amber and Buckwheat Honey. Best cash price for wax. HUBBARD, ONSTED, MICH.

HONEY WANTED—Wanted sample and prices for clover honey in ton lots. Must be light colored, mild, well ripened, heavy bodied and not heated. BOX 127, MIDDLEBURY, VERMONT.

WANTED, chunk comb and extracted honey. Mail sample and price. STOLLER HONEY FARMS, LATTY, OHIO.

WANTED—All grades of extracted honey, cans or carloads. Send sample and best price. Cash. Michigan Beekeepers, I have lots of empty 60's, take and fill them up and save the price of the cans. HONEYMOON PROD. CO., 39 E. HENRY ST., RIVER ROUGE 18, MICH.

We render cappings, old combs and buy your beeswax. Shipping tags sent on request.—M. R. CARY CORP., 219 WASHINGTON SQUARE, SYRACUSE 8, N. Y.

HONEY WANTED for bottling, bakers including buckwheat. All types, in tins or drums, trailer loads. Send samples representing each lot. ALSO ROYAL JELLY. Write CHAS. E. FARRIS CO., 99 HUDSON ST., N. Y. City. Established since 1910.

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WRITE FOR CATALOG—Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. THE HUBBARD APIARIES, Manufacturers of Beekeepers' Supplies and Comb Foundation, ONSTED, MICHIGAN.

THE BIGGEST BEE SUPPLY Catalog published (64 pages) free for the asking. Listing many items not found in other catalogs. No agents—buy direct and save 20%. WALTER T. KELLEY CO., CLARKSON, KENTUCKY.

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FOR SALE—Model BH-10 Johnson Dovetailing Machine. Used very little and in perfect condition. $75.00 FOB Middlebury. BOX 127, MIDDLEBURY. VT.

FOR SALE—Most southerly located Queen, Royal Jelly and Bee business in U. S. 300 colonies, 1500 nuclei mating boxes, old age and health reason for sale. Box 1114.

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QUEENBEE PAINTING OUTFITS, $1.50. INTERLOOKERS, $3.00 postpaid. SOUTHWICK APIARIES, WABAN, MASS.

HEALTH forces sale. Central Florida, furnished home. Plenty citrus, 15 bee yards, thousands extra combs, truck, extra equipment, $15,000. Half cash to responsible purchaser. Write TWW care this magazine.

FOR SALE—10-frame supers, 9⅝ depth, $1.15, 100 or more, $1.05. 6⅝ depth, 95c, 100 or more, 85c. We use Kiln Dried Ponderosa White Pine. If metal frame rest desired, add 5c per super. KEHM BROS. APIARIES, Airport Bldg. T-112. Mailing address—222 East 7th, GRAND ISLAND, NEB.

BEE SHOP and two-family house for sale at Portland, Michigan. Natural gas, electricity, city water and sewer. 500 colony capacity. Some equipment and bees if wanted. A real opportunity in southern Michigan. RALPH BLACKMAN, 632 Broadway, DUNEDIN, FLA.

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We use all possible care in accepting advertisements but we cannot be held responsible in case disease occurs among bees sold or if dissatisfaction occurs. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

3-band Italian and Carniolan queens, $1.00. LUTHER PICKETT, EFLAND, N. C.

CARNIOLAN and CAUCASIAN Bees for 1959. Booking queens. Each, $1.00; 2-pound bees with queen, $4.00. 3-pound bees with queen, $5.00. LEWIS & TILLERY BEE CO., RT. 3, BOX 251, GREENVILLE, ALABAMA.

PACKAGE BEES and QUEENS 1959. Two extra good strains, Dadant Starline & Our Regular Stock. Write for prices and shipping dates. ALAMANCE BEE COMPANY, GEO. E. CURTIS & SONS, LA BELLE, FLA.

PACKAGE BEES & QUEENS, two and three frame nuclei by truckload, queenless packages and frame brood and bees. G. C. WALKER, PHARR, TEXAS.

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WANTED

WANTED—Beekeeper for package and queen yards. Give age, height and full information in first letter. HOWARD WEAVER & SONS, NAVASOTA, TEXAS.

MISCELLANEOUS

BEES REMOVED from house or tree or hive without touching either house or bees. Bees will then move honey into hive. Save property, honey, and bees with my method. Send $2.00 for details. Satisfaction guaranteed. GEORGE HAWKINS, RT. 1, LAWSON, MO.

1958 edition of our 112-page book "HOW TO KEEP BEES AND SELL HONEY" contains over 175 clear, sharp pictures and drawings, explains in easy to read style all you need to know to make beekeeping pleasant and profitable. Includes hitherto secret information on how to build low cost hot box to liquefy ten 60-pound cans of granulated honey over night, how to prepare wax for market and fairs, and how to make creamed honey. 75c postpaid. WALTER T. KELLEY CO., CLARKSON, KY.

MAGAZINES

THE SCOTTISH BEEKEEPER (The official organ of the Scottish Beekeepers' Association.) Scottish in character, international in appeal. Annual subscription $2 post free. Sample copy from ROBERT N. H. SKILLING, F.S.C.T., 87 KING STREET, KILMARNOCK, AYSHIRE.

Archiv fur Bienkunde, International journal for Bee Culture and beekeeping economics. Founded in the fall of 1918. Oldest economic bee journal in the world. Praised again and again for its decades of independent leadership through many endorsements and advice as a valuable source also for the practice. Classic. Yearly DM 5.50. Any aspiring beekeeping friend will receive a sample copy. BIENE-VERGLAG, GIELBACK, LINDAU, GERMANY.

BEE WORLD, the international journal of the Bee Research Association published monthly, contains the latest research reports on bees and beekeeping. With Apicultural Abstracts it costs $5.50 per annum, or $6.00 including membership of the Bee Research Association. Apicultural Abstracts only $4.50 per annum from the Hon. Subscription Secretary, Bee Research Association, 10 BARNETT WOOD LANE, ASHTEAD, SURREY, ENGLAND.

AFRICAN BEEKEEPING, successor to the S. A. Bee Journal, monthly, sub. 10/- per annum. THE EDITOR, P.O. Box 4, Bergvliet, C. P., South Africa.

BEE JOURNAL of INDIA, published monthly in English. Subs. Rs. 12/-or Sh. 17/6d (starting) or $2.75 per year per International M.O. Sample copy 2s, or 25 cents. Can be had from: The Bhupen Apiaries (Himalayas), Ramgarh, Dist. Nainital, U. P., India.

GOAT MILK—Healthful food, profitable business, learn how. Monthly magazine $2. yearly. DAIRY GOAT JOURNAL, COLUMBIA T3, MO.

DO YOU FIND it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information on range sheep than any other magazine published. Subscription, $3.00. BOX 189, SAN ANGELO, TEXAS.

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DELUXE $2.75
UTILITY 2.45
Plus 32c postage fee.

Also obtainable from your leading Bee Dealer.
Don't accept a substitute.

(Continued from page 752)

speakers are of national stature in the honey business—(will tell you who they are next month). Fine contributions can be expected on these subjects.

A Panel on Queen Breeding should bring out all that is new on the important subject. Dr. Cale, Jr., of Illinois, Mr. Rossman of Georgia, Mr. Weaver of Texas are booked, with possibly Dr. George Abrams of the University of Maryland as Moderator. Another important name on the program is Mr. Watkins, President of ABF.

The thought of going to Florida in the winter immediately arouses a holiday mood, and we think Tuesday, January 27, can best be spent meeting old friends, visiting, or sight seeing... The Florida Host Committee reports so many interesting things to see and do. Then, everyone will be rested and relaxed, and ready to enjoy a fine evening at the Banquet. Something special is being planned, so please do not miss it!

Hope to see you in Tampa.

AMERICAN NATIONAL HONEY SHOW
Tampa, Florida
February 3-7, 1959

This show to be held in Tampa, Florida, is sponsored by the American Beekeeping Federation, State of Florida, Department of Agriculture, and Florida State Fair, in cooperation with Florida State Beekeepers' Asociation.

The date: **February 3-7, 1959.** Qualified judges will be selected during the Florida convention to be held in Tampa, January 28-30, 1959. For furher information regarding rules and regulations write Robert Banker, Secretary-Treasurer, American Beekeeping Federation, Cannon Falls, Minnesota.

DR. E. R. JAYCOX JOINS BEE CULTURE SECTION AT LOGAN, UTAH

Dr. Elbert R. Jaycox was recently appointed as Apiculturist by the United States Department of Agricultrue, Entomology Research Division. His headquarters will be at Logan, Utah, where he will conduct basic research on the foraging behavior of bees with special reference to the effects of insecticides on bees. The Bee Culture Section Laboratory at Logan is under the direction of Dr. George E. Bohart and functions as an integral part of the Utah State Experiment Station.

Dr. Jaycox was born in Miami, Arizona, 35 years ago. He attended high school and college in Los Angeles prior to a 3-year stint with the Air Force in the U. S. and India. After the war he returned to the University of California at Davis where he received a B.S. degree in general agriculture in 1949. Still at Davis he received an M.S. degree in Entomology in 1951 and a Ph.D. in Entomology with specialization in Apiculture in 1956.

He has been Supervisor of Apiary Inspection for the California Department of Agriculture from 1953 until the present time. Dr. Jaycox has served twice as president of the Apiary Inspectors of America, an organization of apiary inspection officials of the United States and Canada.

He and his wife, Barbara, have three children, Susan, 9, John, 6, and Julia, 1.

MIDDLESEX COUNTY (MASS.)
Beekeepers' Association
Christmas Party
December 27, 1958

The annual Christmas party for members, guests and children of the Middlesex County Beekeepers' Association (Mass.) will be held at 6:30 Saturday, December 27 at the Waltham Field Station with a buffet supper of special Christmas casseroles, cakes, and pies. Although delayed, Santa Claus is expected to arrive with gifts for all. Instrumental music for carol singing will be furnished by the Peckham and Cutter children. Douglas Brown was the proud winner of this season's Club Hive. Our first endeavor in having a Honey and Wax show with Dr. Frank Shaw supervising the judging was quite successful at our November meeting. —John Furber, President.

MINNESOTA
Beekeepers' Association
December 6, 1959
Minneapolis, Minnesota

The annual meeting of the Minnesota Beekeepers' Association, Inc., will be held on Saturday, December 6, 1958 at the Curtis Hotel in Minneapolis. Following the meeting there will be an evening banquet. All who are interested are cordially invited to attend. —George McReynolds, Sec.

A new fairyland and storybook playground which features 10 acres of recreated fairy tales and a playground in Tampa, Florida, the location of the coming American Beekeeping Federation meeting.—Photo by Tampa News Bureau.

IMPORTANT NOTICE

FEDERATION EXECUTIVE SECRETARY POSITION OPEN

Knowledge of Beekeeping and elementary accounting desirable. Send application giving age, experience, and other pertinent data to

S. J. Watkins, Pres., American Beekeeping Federation, Inc.
202 Red Mesa Heights, Grand Junction, Colorado

WE WILL "BEE" SEEING YOU IN TAMPA

FROM HERE and there all over the nation, beekeepers will wend their way South in January, bent on attending the Bee Convention and Honey Show in Tampa, Florida.

The Southern Conference will begin registration and committee meetings Sunday afternoon at the Hillsboro Hotel where also they will hold their Convention on the 26th.

On January 27 there will be committee meetings and registration for the National Beekeeping Federation who will conduct the program on January 28, 29, and 30, with their banquet the evening of the 30th, at the Hillsboro Hotel.

January 31 will be the final business session of the National Federation. You will then be at ease and may further enjoy your trip seeing the things you like most to see.

The National Honey Show will start Tuesday February 3 at the Fair Grounds and run through the 7th. Seldom will you be able to attend so much in one place as you will here at that time.

The Florida State Honey Show will run through the second week of the State Fair. Last year our State Honey Show was one third larger than that of the National Honey Show. We would be glad to have you stay long enough to visit that also.

Tampa will also be host to the Florida State Beekeepers in October 1959. For additional information on the convention, address Robert Banker, Cannon Falls, Minn. For reservations, write Hillsboro Hotel, Tampa, Florida. For more on the Honey Show, write Fred Oren, 2516 Silver Lake, Tampa.

Keep Christ in your Christmas.
Wishing a
HAPPY NEW YEAR
to All
Mitchell's Apiaries
Bunkie, La.

Merry Christmas :

"When the fullness of time was come, God sent forth His Son".
Galatians 4:4

May all the season's Joys be yours.
Let us forget worldly things for a moment things for a moment as we think of this the greatest of all seasons and realize the Son was given that we and the world might be saved.

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Send for a sample copy.
American Bee Journal
HAMILTON, ILLINOIS

FLORIDA
Beekeepers' Association
Fort Pierce, Florida
October 23 and 24

The Florida Beekeepers' Association had a very successful meeting on October 23 and 24, at Shamrock Village Motel, Fort Pierce, Florida. One of the high points of the meeting was the election of officers. Those elected were: David Phillips of Clearwater, President; Felix H. Uzzell of Sebring, Vice President; and Frank Roberts of Gainesville, Secretary and Treasurer.

HOMER LEN FOOTE BECOMES CALIFORNIA APIARY INSPECTOR

Mr. Homer Len Foote has been appointed to replace Dr. Jaycox as Supervisor of Apiary Inspection in California. Mr. Foote comes to California from Arizona where he was well known to the beekeeping industry of that state. He had served as a Deputy Apiary Inspector in Maricopa County for five seasons before being appointed Assistant District Entomologist in the Yuma area. Mr. Foote is a graduate of Arizona State College at Tempe and holds a bachelor's degree in Entomology.

He was born in Safford, Arizona, but the greater part of his life was spent in Phoenix, except for two years in Western Canada and a similar period of military service assigned to personnel administration. He is 27 years of age, married, and has two children.

Mr. Foote has worked with bees of his own on a commercial scale since the spring of 1948. He also managed bees three seasons for a large commercial firm which operated 3,000 colonies of bees near Phoenix. This experience has made him familiar with the problems of both the side line and the large commercial migratory operations of the beekeeping industry, as well as disease suppression work.

Mr. Henry Michalk has been recently appointed to the newly created position of Apiary Inspector and will assist Mr. Foote. Mr. Michalk is 23 years of age, married and is the father of two children. He was born in Visalia, California, and is a graduate of the University of California at Davis. He holds a bachelor's degree in Entomology. Mr. Michalk has kept bees of his own and worked under Dr. Harry H. Laidlaw at the University of California in the experimental apiaries.

MICHIGAN
Beekeepers' Association
Union Building, Michigan State Univ.
December 12, 1958

Michigan Beekeepers' Association will hold its annual business meeting Friday, December 12, 1958, at the Union Building, Michigan State University, from 10:00 a.m. to 5:00 p.m. All beekeepers are invited.

MIDWESTERN
Beekeepers' Association
Kansas City, Mo.
December 14, 1958

The Midwestern Beekeepers' Association will hold its regular monthly meeting at the I.O.O.F Hall, 812 Westport Road, Kansas City, Missouri at 2:30 p,m. Sunday, December 14, 1958. This meeting will feature the annual election of officers. Discussion will be on "Winter Chores". Movies and refreshments will round out the afternoon. Everyone welcome. — Carroll L. Barrett, Secretary.

COLORADO
Beekeepers' Association
Denver, Colorado
December 8 and 9

Our annual winter meeting of the Colorado Beekeepers' Association will be held in the Auditorium Hotel in Denver, Colorado, December 8 and 9. The main speaker will be Dr. W. T. McElvoy of South Dakota State College. We plan a question and answer panel and other activities for this meeting.

INTERNATIONAL CONGRESS
Rome

We have it on good authority that the International Congress held in Rome was an outstanding success, with almost 1,000 beekeepers attending.

Obituaries

G. H. Merrill, Greenville, South Carolina, one of the oldest queen breeders in the United States died recently as a result of an automobile accident. He was loved by all who knew him.

RESEARCH REVIEW
(Continued from page 738)

Research on the Bacteriostatic Properties of Honey:

HONEY RESEARCH workers in Germany have long been aware of a property of honey which inhibits the growth of bacteria. This type of action is called in technical terms a bacteriostatic action. In a recently published paper B. Warnecke and H. Duisberg report that their experiments indicate that the degree of this inhibition of bacterial growth is parallel to the saccharase (invertase) activity of honey, but does not seem to be related to the amylase (diastase) activity. No correlation was found between either color or body of the honey and the degree of its bacteriostatic properties.

These workers used 131 kinds of honey in their experiments and carried out over 600 individual tests. The degree of inhibition of bacterial growth was measured by determining the concentration of honey in an agar medium which would stop all growth of the bacterium **Staphylococcus aureum haemolyticum.** The inhibitor in honey has been reported to be sensitive to light and high temperatures. Honeys with a very low diastase activity, however, often caused a high degree of inhibition. No explanation for this phenomenon has been presented.

Warnecke, B. and H. Duisberg.
The bacteriostatic (inhibitor) effect of honey. [Translated title.] Zeitschrift fur Lebensmi.tel-Untersuchung und -Forschung 107: 340-344. '58

DO YOU WANT A SURPRISE?

CARL M. TEASLEY, Oconee, Tennessee

IF YOU WANT to surprise yourself and your bees, next time you go through a hive select a brood frame well covered with bees. Imagine you are Tarzan of the Apes and place your face within 8 to 12 inches of the frame and yell loudly in a tone of low C or thereabouts. All bees within an 8 to 10 inch circle on the brood will remain still as though stunned.

I tried this sound idea last August in my bee yard after reading about the experiments at Cornell. Always had an idea that bees had no ears, but they can hear us humans, after all. So guess we'd better be careful as to what we call them.

[If you try this we suggest you wear a bee veil.—Ed.]

HONEY TREATS FOR HOLIDAY SWEETS
(Continued from page 741)

olate over hot water, add honey. Cut marshmallows into eighths. Pour one-half melted chocolate into pan and cover with layer of marshmallows. Sprinkle cereal evenly over top and add remaining chocolate. Tap pan to settle chocolate. Let harden and cut into squares.

Honey Cornflake Crunchies

One-half pound sweet chocolate, 2 tablespoons honey, 2 cups cornflakes, ½ cup chopped dates, and ½ cup chopped nutmeats.

Melt chocolate over hot water, add honey. Measure other ingredients into a greased bowl and add honey and chocolate mixture. Mix well. Drop on waxed paper or buttered cookie sheet, using a measuring teaspoon. Set in cool place until chocolate hardens.

BOOKING PACKAGE BEES FOR 1959—
"Starlines" and Italians
Sincere appreciation is expressed
for business sent us the past season.
May the approaching Yuletide bring you much happiness.
GARON BEE COMPANY Donaldsonville, La.
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SEASON'S GREETINGS
"The grace of our Lord Jesus Christ be with you all, Amen." — Rev. 22-21.
JENSEN'S APIARIES MACON, MISS. U.S.A.
N. C. (Chris.) Jensen E. L. (Eugene) Jensen
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YORK'S QUALITY BRED QUEENS
Dadant's Improved STARLINES or YORK'S Quality Bred Italians
PLUS
First and Finest Caucasian type hybrid — DADANT'S MIDNITES

Quantity	1-24	25-99	100 up
Italians	$1.00	$ .90	$ .80
Starlines or Midnites	1.30	1.20	1.00

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(The Universal Apiaries)
P. O. Box 300 412 W. Orange Street Phone GArden 7-4131

Honey Peanut Butter Roll

One-third cup honey, ¼ cup peanut butter, ⅔ cup instant nonfat dry milk and chopped peanuts.

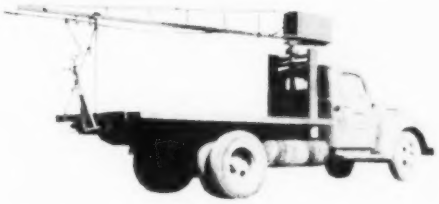
Blend honey and peanut butter, gradually stir in dry milk. Shape into roll about 1 inch thick. Roll in chopped peanuts. Chill. Serve in slices.

Honey Fruit Cake

One cup water, ½ cup sugar, 2 tablespoons honey, ¾ cup seedless raisins, 2½ cups white raisins, ½ cup chopped dates, 1 cup citron, sliced, ½ cup candied pineapple, 2 tablespoons each candied lemon peel, orange peel and candied cherries, ½ cup chopped almonds, 3 cups sifted flour, 3 teaspoons soda, 1 teaspoon cinnamon, ¼ teaspoon cloves, ¾ teaspoon salt, ¼ teaspoon grated nutmeg, ½ teaspoon allspice, 1 cup butter, ½ cup brown sugar, firmly packed, 3 eggs, ½ cup honey, ½ cup grape jelly, and ¾ cup buttermilk.

Boil sugar and water, add honey and let simmer. Pour over raisins, let stand for 2 hours, stirring occasionally. Add fruits and nuts and let stand over night. Sift flour with soda, salt and spices. Cream butter and brown sugar; add eggs; beat well. Stir in honey and jelly, beating well. Then add flour and spices, alternately with buttermilk. Pour excess syrup off fruit and add fruit to batter a little at a time, stirring well. Pour into pans lined with plain white paper. Set pans in a shallow pan with small amount of water to provide steam. Bake in a slow oven, 250 degrees F. 2½ hours.

The Australasian Beekeeper
The senior beekeeping journal of the Southern hemisphere provides a complete cover of all beekeeping topics in one of the world's largest honey producing countries. Published monthly by Pender Bros. Pty. Ltd. Box 20, P. O., Maitland, 3N, N.S.W., Australia. Subscription by Bank Draft or International M. O. 18/-(Approx. $2.15) per year, post free. Sample copy free on request.



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Now is the time to think of your back and all of the heavy lifting you will have to do next and the following years unless you buy a hive loader.

Our electric push button model has remained practically unchanged through four years of use, with practically no repair parts required. Built for the heaviest bee yard use, for 1½-ton and heavier trucks. Found to be the best in actual use by commercial beekeepers from coast to coast. Write for free circular.

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Volume 86, 1958

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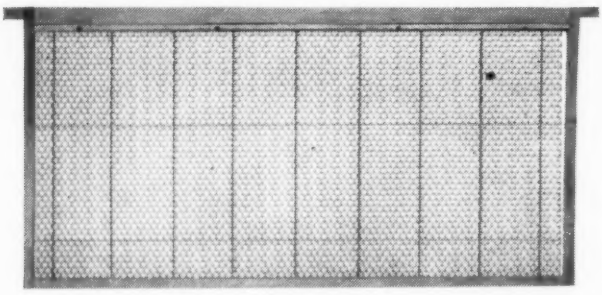

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